Eclipse 700 技術手冊

Version 1.03

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系統架構

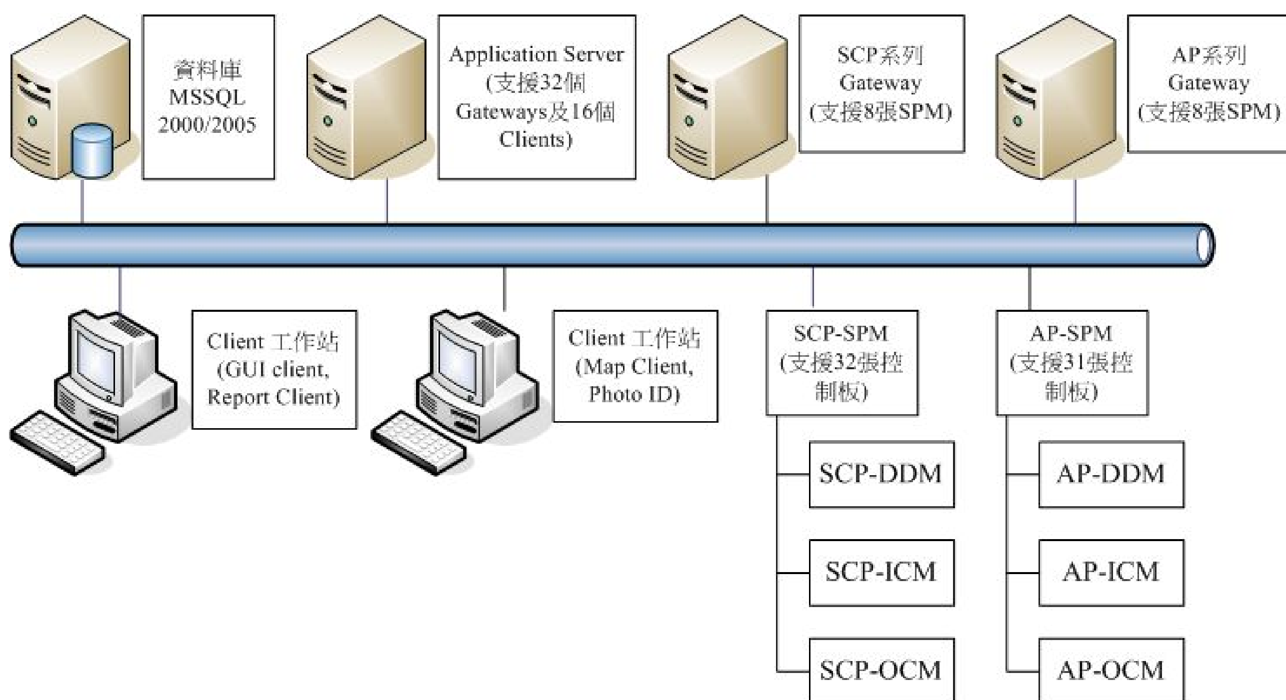
簡介

Eclipse 700 系統爲一以系統服務方式運行之套裝軟體，該系統提供建築物可高度規劃性及監控性的保全管理，包含門禁控制，入侵偵測及自動化的連動控制。本軟體是以 Microsoft .NET framework 1.1 爲基礎，並在 Visual Studio 2003 環境下以 VB.Net 撰寫而成。本文件將會提供 Eclipse 700 在技術上及各方面的細節。

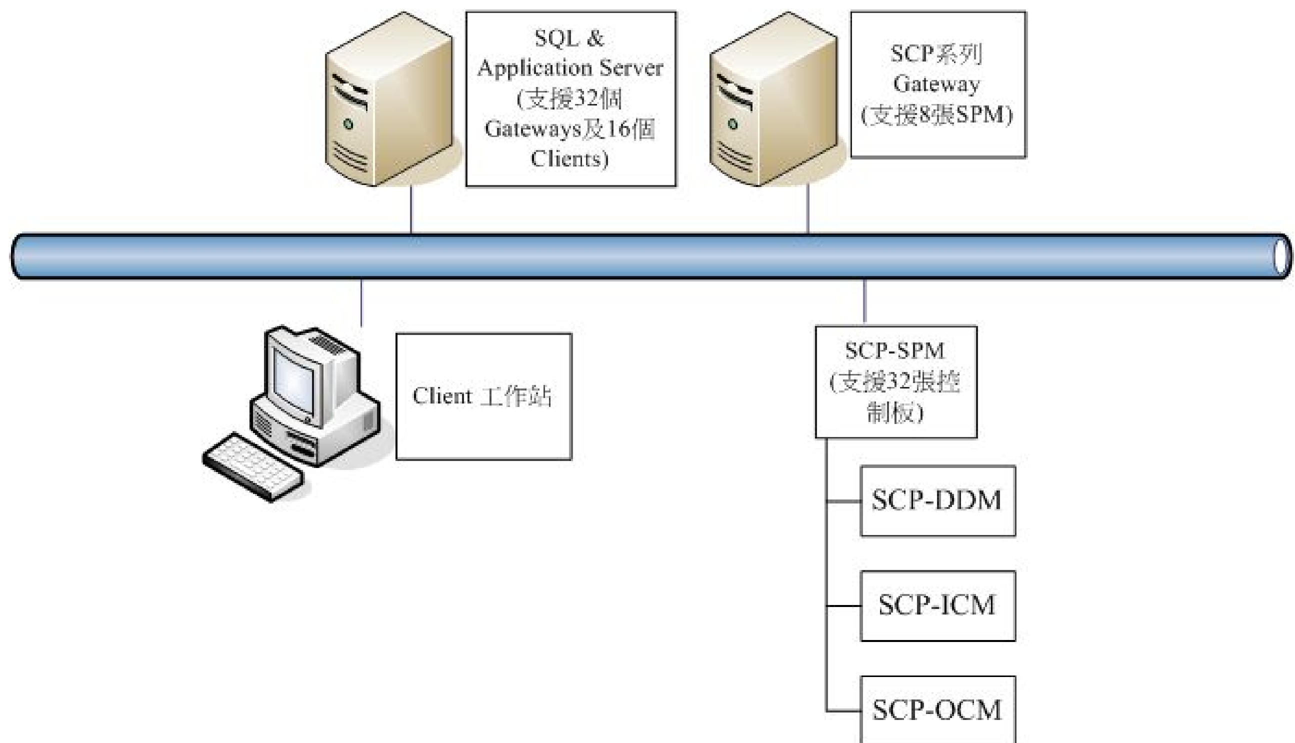
本系統的核心軟體組件爲 Application Server，此軟體負責與 SQL 資料庫連結，並與各式 client 端及 Gateway 通訊。單一 Application Server 最多可與 32 個硬體 Gateway 連結(一個 Gateway 可有 512 個門)，Application Server 基本上可接受 16 個 clients 的連接或透過另購的 licenses 來擴充可接受的 client 數。

第二個必須的組件爲 Eclipse 700 Gateway，此組件包含二種形式：AP 系列及 SCP 系列，一個 Gateway 最多可與 8 個 SPM 通訊(最多 512 個門)。P.S. 一台電腦只安裝一個 Gateway。

下列範例爲 Eclipse 700 系統的各軟體組件皆獨立安裝的示意圖。



下圖爲另一種安裝方式，SQL, Application Server, Gateway 也可都安裝於同一台電腦上。



Clients

GUI Client圖形化使用者介面

登入

執行下列捷徑後會出現登入畫面



填入登入使用者帳號及密碼後點選連接後登入

登入
歡迎使用Eclipse 700保全系統 by Digital Horizon Solutions. 請輸入登入資訊後點選連接後登入
使用者名稱
使用預設伺服器
密碼
連接
使用預設語言
版本 1.2.3118.14637

預設之伺服器 IP 位址為 127.0.0.1，假如 Clinet 與 Server 不在同一台機器，取消勾選使用預設伺服器後可填入正確的 Server IP 位址。點選 IP 位址欄後之圖示可儲存 Server IP 位址，下次登入時將直接套用 IP 位址。

登入
歡迎使用Eclipse 700保全系統 by Digital Horizon Solutions. 請輸入登入資訊後點選連接後登入
使用者名稱
使用預設伺服器
密碼
伺服器IP位置
127.0.0.1
連接
使用預設語言
版本 1.2.3118.14637

外觀介紹

本 Eclipse 700 GUI Client 介面有三個主要的區塊。

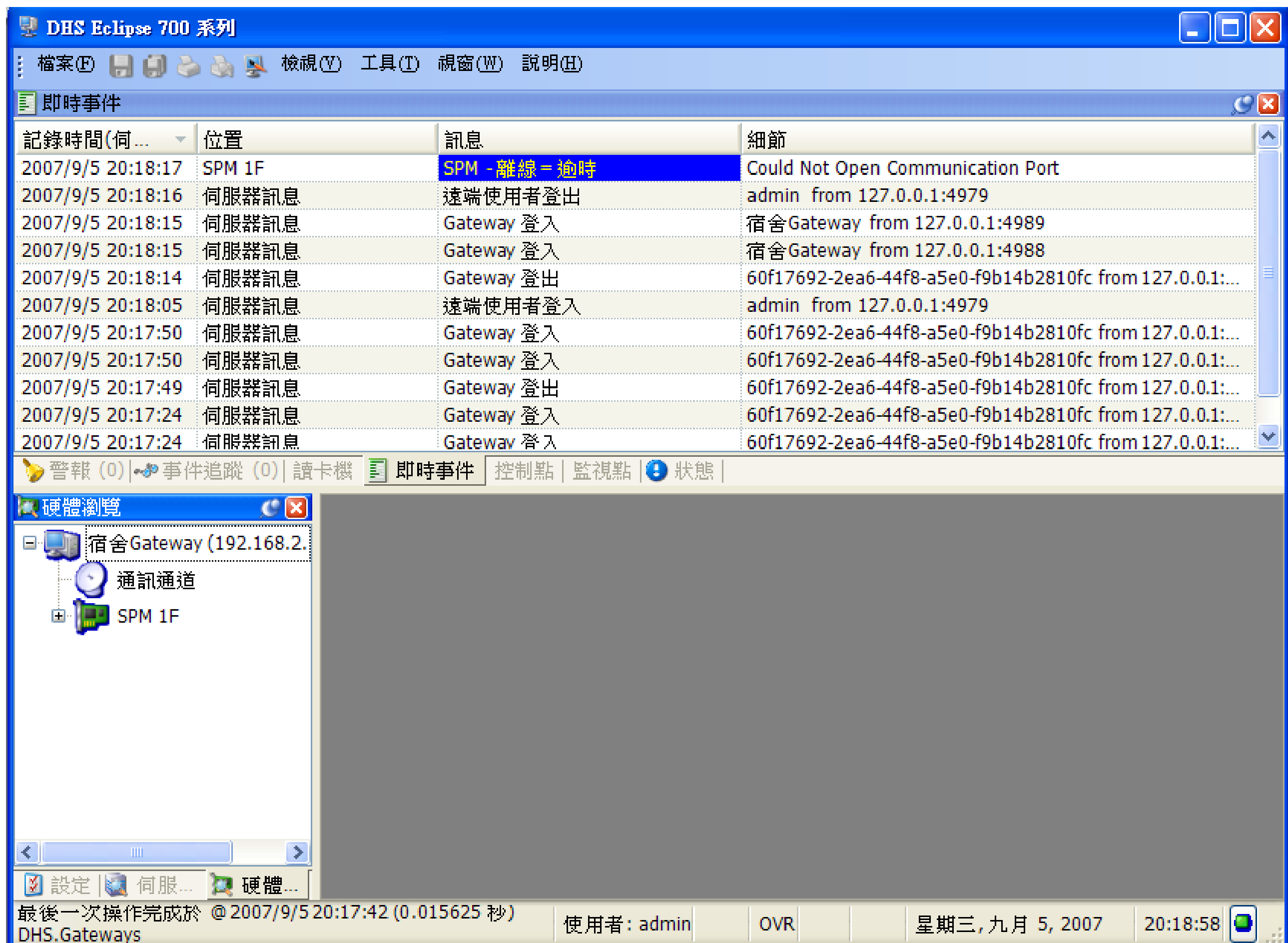
左方：此區域為本系統三個主要瀏覽器的區域。

中間：中間區域為設定值視窗，系統中所有叫出的設定頁面都會在此處顯示。

上方：上方區域為即時事件，警報及所有硬體的列表視窗。

NOTE：畫面中所有視窗的位置都是可移動，調整及關閉的，有些還可設定自動隱藏。

(於本文件之 使用者｜使用者外觀 有詳細說明)



即時事件

此處爲即時事件顯示區域，系統的即時訊息都會顯示於此處。

DHS Eclipse 700 Series

檔案(F) 檢視(V) 工具(T) 視窗(W) 說明(H)

即時事件

記錄時間(伺服器)	位置	訊息	細節
2008/6/9 16:15:04	Reader 1.1	讀卡機模式改變 - 解鎖	
2008/6/9 16:15:04		已存動作列表	Action List: 1 Execute (A)
2008/6/9 16:15:03	Test SPM	符合觸發器條件	Condition 1
2008/6/9 16:15:00	Test SPM	排程已啟動	16～23
2008/6/9 15:34:51	Test SPM	SPM ID 報告	Rev=3.94 S/N=17514 557078/1041560 Clock=2008/6/9 下午 03:34:51 DB=26/5000...

警報 (3) | 事件追蹤 (0) | 即時事件 | 狀態 | 讀卡機 | 監視點 | 控制點 |

狀態

此爲系統中所有 SPM 及期所屬控制板的列表視窗，可依需求做分類排序來讓使用者方便的檢視。

DHS Eclipse 700 Series

檔案(F) 檢視(V) 工具(T) 視窗(W) 說明(H)

狀態

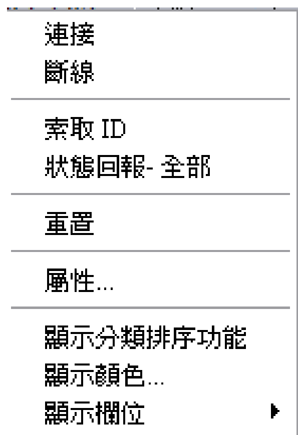
Gateway └ 控制器 └ 裝置類型

裝置...	Gate...	控制器	敍述	記錄時間(伺服器)	通訊	破壞警報	電源失敗	細節
− Gateway: test								
− 控制器: Test SPM								
− 裝置類型: Panel								
Panel	test	Test SPM	OCM TR4	2008/6/9 15:34:50	連線	是	是	不明
Panel	test	Test SPM	ICM TR4	2008/6/9 15:34:50	連線	是	是	不明
Panel	test	Test SPM	DDM TR3 01	2008/6/9 15:34:50	連線	否	否	不明
Panel	test	Test SPM	DDM TR2 00	2008/6/9 15:34:50	連線	是	否	不明
− 裝置類型: SPM								
SPM	test	Test SPM	Test SPM	2008/6/9 15:34:50	連線	否		不明

狀態回報
狀態回報 - 全部
屬性...
隱藏分類排序功能
顯示顏色...
顯示欄位

警報 (3) | 事件追蹤 (0) | 即時事件 | 狀態 | 讀卡機 | 監視點 | 控制點 |

右鍵選單－**SPM**



連接 經由該 SPM 所屬之 Gateway 送出連接的指令至該 SPM

斷線 經由該 SPM 所屬之 Gateway 送出斷線的指令至該 SPM

索取 ID 送出一索取 ID 的指令給該 SPM，回覆的訊息會在狀態視窗及即時事件視窗顯示。

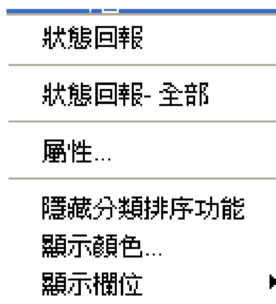
重置 此功能將使該 SPM 做一記憶體初始化的動作，**動作期間所有的控制板都將離線**。

屬性 顯示該 SPM 的屬性視窗。

顯示顏色 叫出顯示顏色視窗，此視窗允許使用者自訂特定欄位的字型顏色及背景顏色。

顯示欄位 開啓或關閉要顯示的欄位。

右鍵選單－控制板**(Panel)**



狀態回報 對選定的控制板送出狀態回報的指令。

狀態回報- 全部 對全部的控制板送出狀態回報的指令。

屬性 顯示該控制板的屬性視窗。

顯示顏色 叫出顯示顏色視窗，此視窗允許使用者自訂特定欄位的字型顏色及背景顏色。

顯示欄位 開啓或關閉要顯示的欄位。

讀卡機



右鍵選單－讀卡機

暫時開門
模式 ▸

強制開啓控制 ▸
保持開啓控制 ▸

屬性...

狀態回報

狀態回報- 全部

隱藏分類排序功能
顯示顏色...
啓用多重選取
顯示欄位 ▸

暫時開門 送出開門的訊號給選定的讀卡機。此功能與於現場按壓開門按鈕的作用相同。

模式 改變選定讀卡機的工作模式。

強制開啓控制 隔離或取消隔離選定讀卡機的強制開啓訊號。

保持開啓控制 隔離或取消隔離選定讀卡機的保持開啓訊號。

屬性 顯示該讀卡機的屬性視窗。

狀態回報 對選定的讀卡機送出狀態回報的指令。

狀態回報- 全部 對全部的讀卡機送出狀態回報的指令。

顯示顏色 叫出顯示顏色視窗，此視窗允許使用者自訂特定欄位的字型顏色及背景顏色。

顯示欄位 開啓或關閉要顯示的欄位。

監視點

DHS Eclipse 700 Series

檔案(F) 檢視(V) 工具(T) 視窗(W) 說明(H)

監視點

記錄時間(伺服器)	Gateway	控制器	控制板敘述	敘述	狀態	最後訊息
控制板敘述: DDM TR2 00						
2008/6/9 15:34:50	test	Test SPM	DDM TR2 00	Input 0.7	未作動	不明
2008/6/9 15:34:50	test	Test SPM	DDM TR2 00	Input 0.8	未作動	不明
2008/6/9 15:34:50	test	Test SPM	DDM TR2 00	Input 0.5 Reader 0.1 EP	未作動	不明
2008/6/9 15:34:50	test	Test SPM	DDM TR2 00	Input 0.6 Reader 0.2 EP	未作動	不明
控制板敘述: DDM TR3 01						
2008/6/9 15:34:50	test	Test SPM	DDM TR3 01	Input 1.7	未作動	
2008/6/9 15:34:50	test	Test SPM	DDM TR3 01	Input 1.8	未作動	
2008/6/9 15:34:50	test	Test SPM	DDM TR3 01	Input 1.5 Reader 1.1 EP	未作動	
2008/6/9 15:34:50	test	Test SPM	DDM TR3 01	Input 1.6 Reader 1.2 EP	未作動	
控制板敘述: ICM TR4						
2008/6/9 15:34:50	test	Test SPM	ICM TR4	Input 2.11	未作動	
2008/6/9 15:34:50	test	Test SPM	ICM TR4	Input 2.12	未作動	
2008/6/9 15:34:50	test	Test SPM	ICM TR4	Input 2.9	未作動	
2008/6/9 15:34:50	test	Test SPM	ICM TR4	Input 2.10	未作動	
2008/6/9 15:34:50	test	Test SPM	ICM TR4	Input 2.15	未作動	
2008/6/9 15:34:50	test	Test SPM	ICM TR4	Input 2.16	未作動	
2008/6/9 15:34:50	test	Test SPM	ICM TR4	Input 2.13	未作動	不明
2008/6/9 15:34:50	test	Test SPM	ICM TR4	Input 2.14	未作動	不明
2008/6/9 15:34:50	test	Test SPM	ICM TR4	Input 2.3	未作動	不明
2008/6/9 15:34:50	test	Test SPM	ICM TR4	Input 2.4	未作動	不明

隔離
取消隔離
屬性...
狀態回報
狀態回報- 全部
顯示分類排序功能
顯示顏色...
啓用多重選取
顯示欄位

警報 (3) | 事件追蹤 (0) | 即時事件 | 狀態 | 讀卡機 | 監視點 | 控制點

右鍵選單－監視點

隔離
取消隔離

屬性...

狀態回報

狀態回報- 全部

顯示分類排序功能
顯示顏色...
啓用多重選取
顯示欄位 ▸

隔離 隔離選定監視點的警報訊號。

取消隔離 取消隔離選定監視點的警報訊號。

屬性 顯示該監視點的屬性視窗。

狀態回報 對選定的監視點送出狀態回報的指令。

狀態回報- 全部 對全部的監視點送出狀態回報的指令。

顯示顏色 叫出顯示顏色視窗，此視窗允許使用者自訂特定欄位的字型顏色及背景顏色。

顯示欄位 開啓或關閉要顯示的欄位。

控制點

DHS Eclipse 700 Series

檔案(F) 檢視(V) 工具(T) 視窗(W) 說明(H)

控制點

控制板敍述

記錄時間(伺服器)	Gateway	控制器	控制板敍述	敍述	是否作動	最後訊息
控制板敍述: DDM TR2 00						
2008/6/9 15:34:50	test	Test SPM	DDM TR2 00	Output 0....	否	不明
2008/6/9 15:34:50	test	Test SPM	DDM TR2 00	Output 0.4	否	不明
2008/6/9 15:34:50	test	Test SPM	DDM TR2 00	Output 0.5	否	不明
2008/6/9 15:34:50	test	Test SPM	DDM TR2 00	Output 0.6	否	不明
控制板敍述: DDM TR3 01						
2008/6/9 15:34:50	test	Test SPM	DDM TR3 01	Output 1.3	否	不明
2008/6/9 15:34:50	test	Test SPM	DDM TR3 01	Output 1.4	否	不明
2008/6/9 15:34:50	test	Test SPM	DDM TR3 01	Output 1.5	否	不明
2008/6/9 15:34:50	test	Test SPM	DDM TR3 01	Output 1.6	否	不明
控制板敍述: ICM TR4						
2008/6/9 15:34:50	test	Test SPM	ICM TR4	Output 2.1	否	不明
2008/6/9 15:34:50	test	Test SPM	ICM TR4	Output 2.2	否	不明
控制板敍述: OCM TR4						
2008/6/9 15:34:50	test	Test SPM	OCM TR4	Output 3.1	否	不明
2008/6/9 15:34:50	test	Test SPM	OCM TR4	Output 3.2	否	不明
2008/6/9 15:34:50	test	Test SPM	OCM TR4	Output 3.3	否	不明

作動
復歸
脈衝
屬性...
狀態回報
狀態回報- 全部
隱藏分類排序功能
顯示顏色...
啓用多重選取
顯示欄位

警報 (3) | 事件追蹤 (0) | 即時事件 | 狀態 | 讀卡機 | 監視點 | 控制點

右鍵選單－控制點

作動
復歸
脈衝

屬性...

狀態回報

狀態回報- 全部

隱藏分類排序功能
顯示顏色...
啓用多重選取
顯示欄位 ▸

作動 使選定的控制點作動(激磁)。

復歸 使選定的控制點復歸。

脈衝 使選定的控制點作動一段時間。作動時間於控制點的屬性中設定。

屬性 顯示該控制點的屬性視窗。

狀態回報 對選定的控制點送出狀態回報的指令。

狀態回報- 全部 對全部的控制點送出狀態回報的指令。

顯示顏色 叫出顯示顏色視窗，此視窗允許使用者自訂特定欄位的字型顏色及背景顏色。

顯示欄位 開啓或關閉要顯示的欄位。

警報

下圖爲警報列表

警報 (2)

狀態	使用者	處理時間	裝置類型	優先性	記錄時間(伺服器)	位置	訊息	細節	註記	事件種類
新警報		2008/3/12 15:03:14	Emergency Push Button	0	2008/3/12 15:03:14	Input 0.6 Reader 0.2 EP	監視點 - 安全			清除
處理中	admin	2008/3/12 15:03:32	Emergency Push Button	0	2008/3/12 15:03:11	Input 0.6 Reader 0.2 EP	監視點 - 警報			警報

點選任一警報即可顯示事件處理頁面。

點選**處理中**可將該警報標示爲處理中並將警報音效關閉。

點選**確認**可確認該警報。(如有設定確認後刪除，該警報就會由警報列表移除)

處理中事件
一般 歷史紀錄
詳細內容
時間： 2008/3/12 15:03:11
裝置類型： Emergency Push Button
優先性： 0
敍述： Input 0.6 Reader 0.2 EP
訊息： 監視點 - 警報
細節：
位置： test (Test SPM)
狀態： 處理中
操作員: admin from 192.168.2.112 since 2008/3/12 15:03:32
指引
無音效指引可用
Emergency Push Button Release
可用註記
需要密碼
處理中
確認

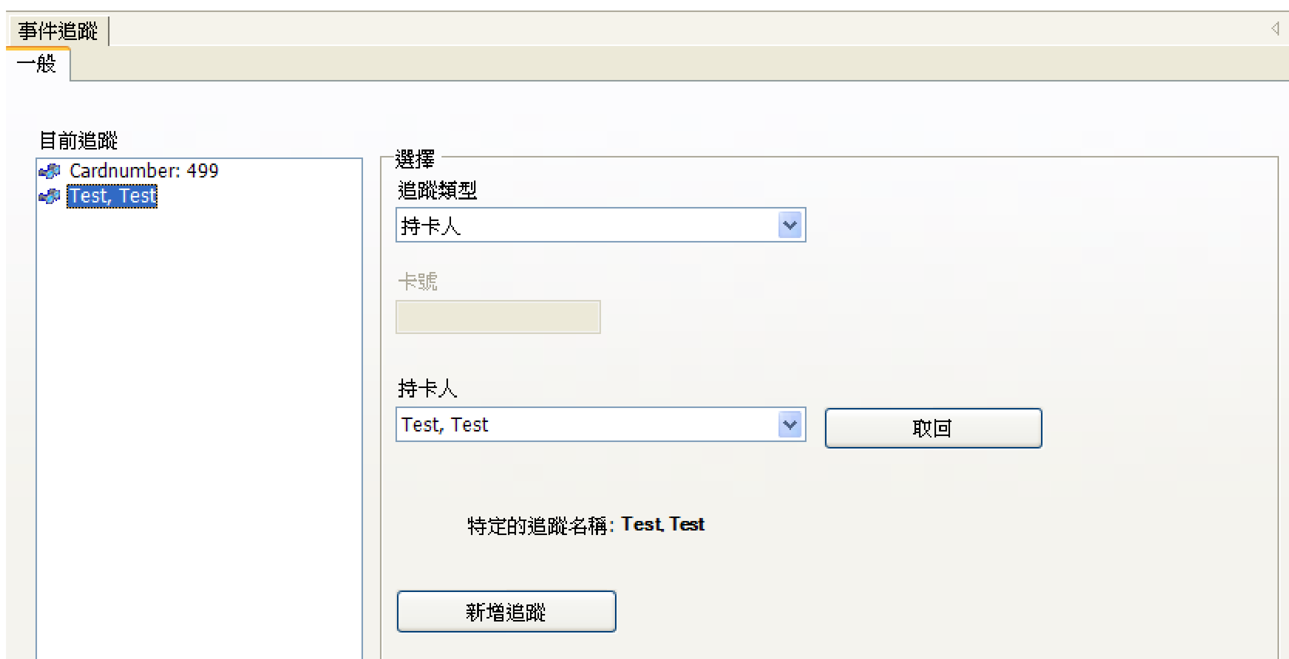
事件追蹤

事件追蹤視窗可顯示目前追蹤的事件，事件追蹤是用來針對使用者有高度興趣的定事件做集中監視，而不需要經過查詢的動作就可即時得知訊息。事件追蹤是以特定名稱群組來做分類，以下爲各種可用來做事件追蹤的特定名稱群組。

Gateway、SPM、卡號、門禁群組、持卡人、訊息種類、控制板、控制點、監視點、讀卡機



在事件追蹤視窗空白處點選右鍵後點選**新追蹤**即可新增一個新的追蹤。



再來由追蹤類型下拉選取所要的類型，選定好要的追蹤後，點選新增追蹤即可新增。由於事件追蹤是以特定名稱群組來做分類，所以追蹤名稱無法變更而由系統自動產生。新增後該追蹤將會自動啓動。

事件追蹤的右鍵選單有以下功能。



新追蹤　可新增一個新的追蹤。

儲存全部追蹤　可儲存目前事件追蹤的設定值，下次登入時就可使用而不需重新設定。

開始追蹤　展開目錄可顯示目前停止中的追蹤，點選名稱可以繼續該追蹤。

停止追蹤　展開目錄可顯示目前執行中的追蹤，點選名稱可以停止該追蹤。

移除追蹤　展開目錄可顯示目前所有的追蹤，點選名稱可以移除該追蹤。

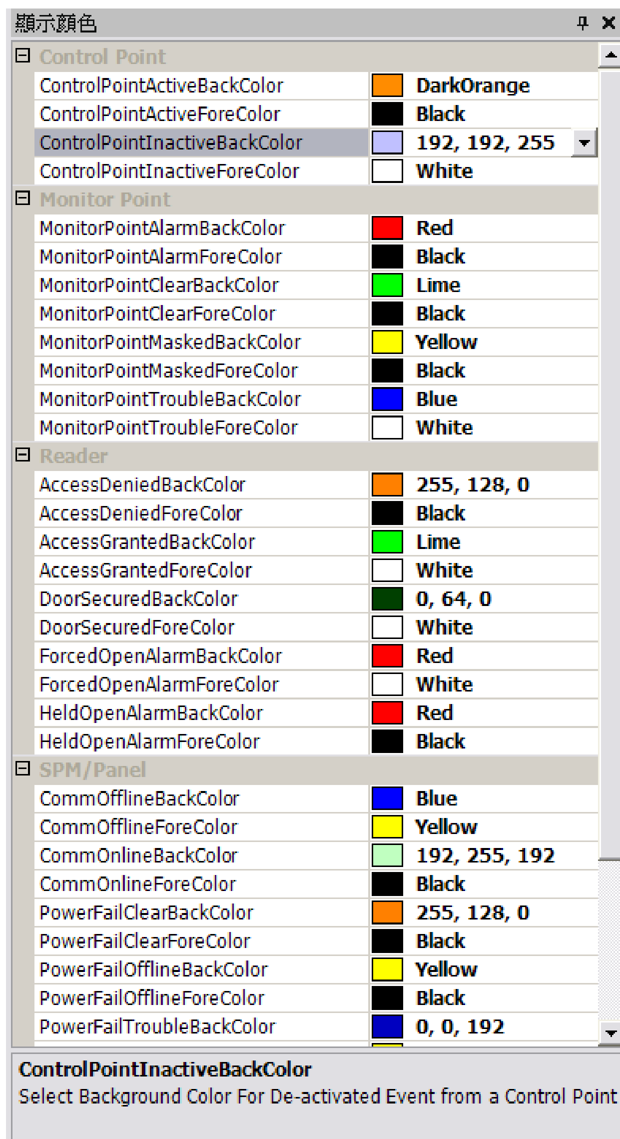
歷史紀錄　展開目錄可顯示目前所有的追蹤，點選名稱可以取回該追蹤的最近 50 筆訊息。

清除追蹤　展開目錄可顯示目前所有的追蹤，點選名稱可以清除該追蹤在事件追蹤視窗內的紀錄。

顯示顏色

上述各列表視窗皆可由右鍵選單叫出此顯示顏色的設定畫面，使用者可依需求自訂顏色。(此部份無中文)

圖示為即時訊息的顯示顏色設定視窗。



Report Client

概要

本系統有內建的報表設計編輯的功能，此功能允許使用者建立新報表或由預設的範本修改爲所需的內容及格式。你可以變更字型，增加圖案，變更標題或註腳的文字，在報表內增加條碼，變更要顯示於報表上的資料庫欄位。報表的外觀設計是以 XML 檔案格式儲存於 Application Server 的報表目錄下(預設位置在：C:/Program files/Eclipse 700/Reports)。

登入

執行下列捷徑後會出現登入畫面



填入登入資訊(與 GUI Client 登入方式相同)。

報表型式

下方列表爲本系統的可用報表型式。

編號	報表型式
1	所有訊息
2	所有訊息(門禁群組)
3	所有訊息(門禁群組, 訊息種類)
4	所有訊息(持卡人)
5	所有訊息(持卡人, 訊息種類)
6	所有訊息(控制點)
7	所有訊息(控制點, 訊息種類)
8	所有訊息(Gateway)
9	所有訊息(Gateway, 持卡人)
10	所有訊息(Gateway, 持卡人, 訊息種類)
11	所有訊息(Gateway, 訊息種類)
12	所有訊息(訊息種類)
13	所有訊息(監視點)
14	所有訊息(監視點, 訊息種類)
15	所有訊息(控制板)
16	所有訊息(控制板, 訊息種類)
17	所有訊息(讀卡機)
18	所有訊息(讀卡機, 持卡人)

19	所有訊息(讀卡機，持卡人，訊息種類)
20	所有訊息(讀卡機， 訊息種類)
21	所有訊息(搜尋)
22	所有訊息(SPM)
23	所有訊息(SPM，持卡人)
24	所有訊息(SPM，持卡人，訊息種類)
25	所有訊息(SPM，訊息種類)
26	持卡人
27	某一地址的持卡人(住家)
28	某一地址的持卡人(公司)
29	某一城市的持卡人(住家)
30	某一城市的持卡人(公司)
31	某一縣市的持卡人(住家)
32	某一城市的持卡人(公司)
33	某一郵遞區號的持卡人(住家)
34	某一郵遞區號的持卡人(公司)
35	某種卡片狀態的持卡人
36	某一計費中心的持卡人
37	某一部門的持卡人
38	某一位置的持卡人
39	某一使用者群組的持卡人
40	某一門禁群組的持卡人
41	某種失效原因的持卡人
42	無相片之持卡人
43	持卡人有{0} 之?
44	擁有至少 1 個卡片組態的持卡人
45	有 PIN 碼的持卡人
46	有效日期介於 X 至 Y 的持卡人
47	擁有有效卡的持卡人
48	有 ADA 的持卡人
49	檢查碼為 X 的持卡人
50	有 APB 豁免的持卡人
51	擁有失效卡的持卡人
52	失效日期介於 X 至 Y 的持卡人

53	啓用生物辨識之持卡人
54	啓用假期日期介於 X 至 Y 的持卡人
55	名為 ? 的持卡人
56	聘僱日期介於 X 至 Y 的持卡人
57	姓為 ? 的持卡人
58	永不失效的持卡人
59	不需檢查 PIN 碼的持卡人
60	暫時有效的持卡人
61	沒有 PIN 碼的持卡人
62	持卡人(全部)
63	設定(控制點)
64	設定(監視點)
65	設定(控制板)
66	設定(讀卡機)
67	設定(SPM)
68	最後 X 個訊息
69	最後 X 個訊息(門禁群組)
70	最後 X 個訊息(門禁群組，訊息種類)
71	最後 X 個訊息(持卡人)
72	最後 X 個訊息(持卡人，訊息種類)
73	最後 X 個訊息(控制點)
74	最後 X 個訊息(控制點，訊息種類)
75	最後 X 個訊息(Gateway)
76	最後 X 個訊息(Gateway，持卡人)
77	最後 X 個訊息(Gateway，持卡人，訊息種類)
78	最後 X 個訊息(Gateway， 訊息種類)
79	最後 X 個訊息(訊息種類)
80	最後 X 個訊息(監視點)
81	最後 X 個訊息(監視點，訊息種類)
82	最後 X 個訊息(控制板)
83	最後 X 個訊息(控制板，訊息種類)
84	最後 X 個訊息(讀卡機)
85	最後 X 個訊息(讀卡機，持卡人)
86	最後 X 個訊息(讀卡機，持卡人，訊息種類)

87	最後 X 個訊息(讀卡機，訊息種類)
88	最後 X 個訊息(搜尋)
89	最後 X 個訊息(SPM)
90	最後 X 個訊息(SPM，持卡人)
91	最後 X 個訊息(SPM，持卡人，訊息種類)
92	最後 X 個訊息(SPM， 訊息種類)

報表屬性

每一個報表都由其本身的設定屬性，這些屬性決定當使用者點擊**執行查詢**按鈕時，該報表會取回那些資料來顯示給使用者看。這些屬性包含：**報表型式**、**排序方法**、**日期範圍**及特殊報表型式的**搜尋條件**。可新增的報表數量並無限制，但是，由於報表本身的主要功能爲針對不同的硬體、持卡人、訊息來做查尋，所以只需製作一些通用的報表，由參數設定要搜尋硬體、持卡人、訊息等即可，並不需要製作大量的報表格式。

敘述　此欄位允許使用者變更此報表的名稱。最多 50 個字元(25 個中文字)。此欄位僅用於識別不同的報表。

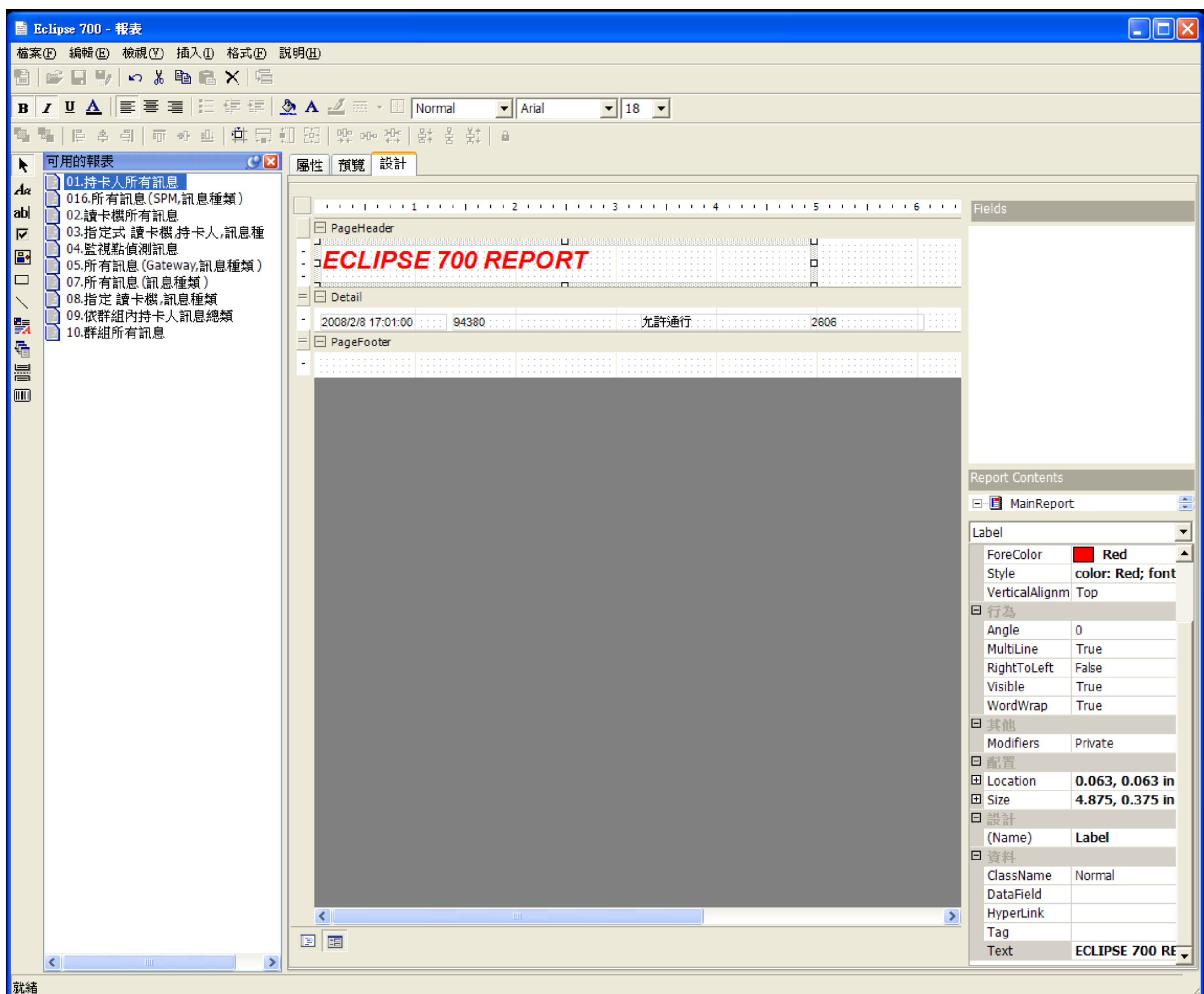
報表型式　下拉選單選擇所需的報表型式。

排序選項　選取資料的排序方法。依據排序方法選擇的時間類型做向上排序(第一筆顯示的資料爲最舊的)或向下排序(第一筆顯示的資料爲最新的)。

執行查詢　點擊此按鈕執行查詢，查詢完成後，預覽及設計頁籤就可點選了。

設計報表

當你完成報表查詢後就可切換到設計頁面進行報表的版面設計，可依實際需求加入標籤、文字框、圖片、線段等，完成專屬的報表。



由畫面左方點選標籤(Aa)或文字框(ab|)後於報表設計區域中畫出想要的大小，然後點取該標籤或文字框後於畫面右方 Report Contents 內點選 DataField 後下拉選擇要顯示資料。

常用的 DataFiled 如下：

TimeStamp_SPM、TimeStamp_Server 、TimeStamp_GMT：訊息的紀錄時間。

Description：設備名稱(EX：讀卡機或警報點)。

MessageDescription：訊息(EX：允許通行或拒絕通行)。

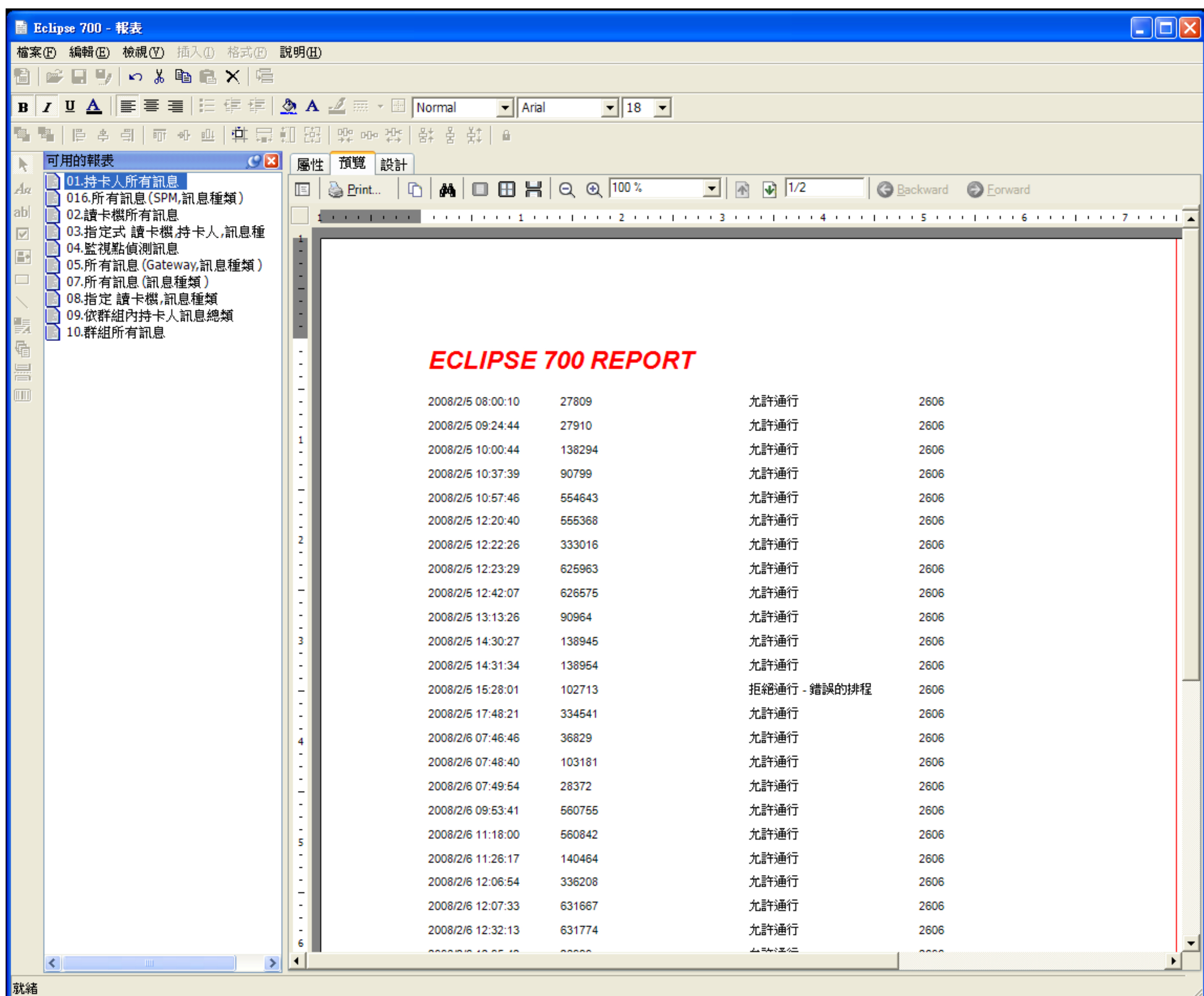
Detail：訊息的詳細內容，一般來說此欄位為持卡人的姓名。

CardNumber：卡號

NOTE：其他的 Datafield 因較少用到所以不在此列出。

預覽報表

報表設計完成後即可切換至預覽頁面查看先前設計的版面結果，使用 **Ctrl+F** 或點選**望遠鏡**圖示可開啓搜尋對話窗，可在此預覽頁面內搜尋特定資料。



匯出報表

當畫面停留在預覽頁面時，點選工具列的“檔案(F)=>匯出”即可匯出該報表，報表可匯出的格式如下。

可攜式文件格式 (PDF)

HTML

TIFF

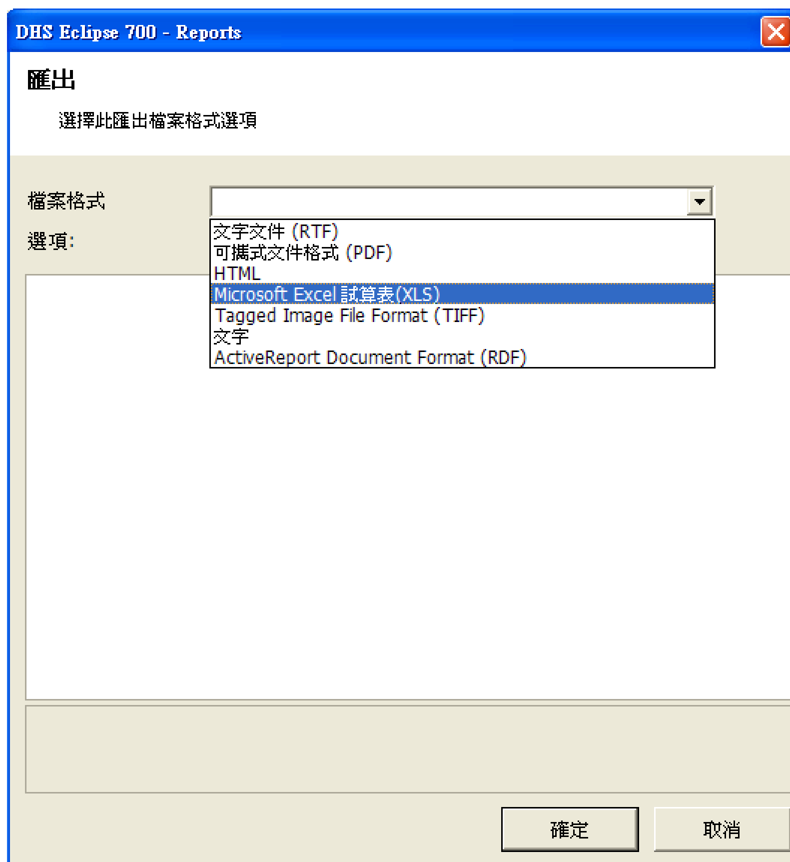
Microsoft Excel

文字文件(RTF)

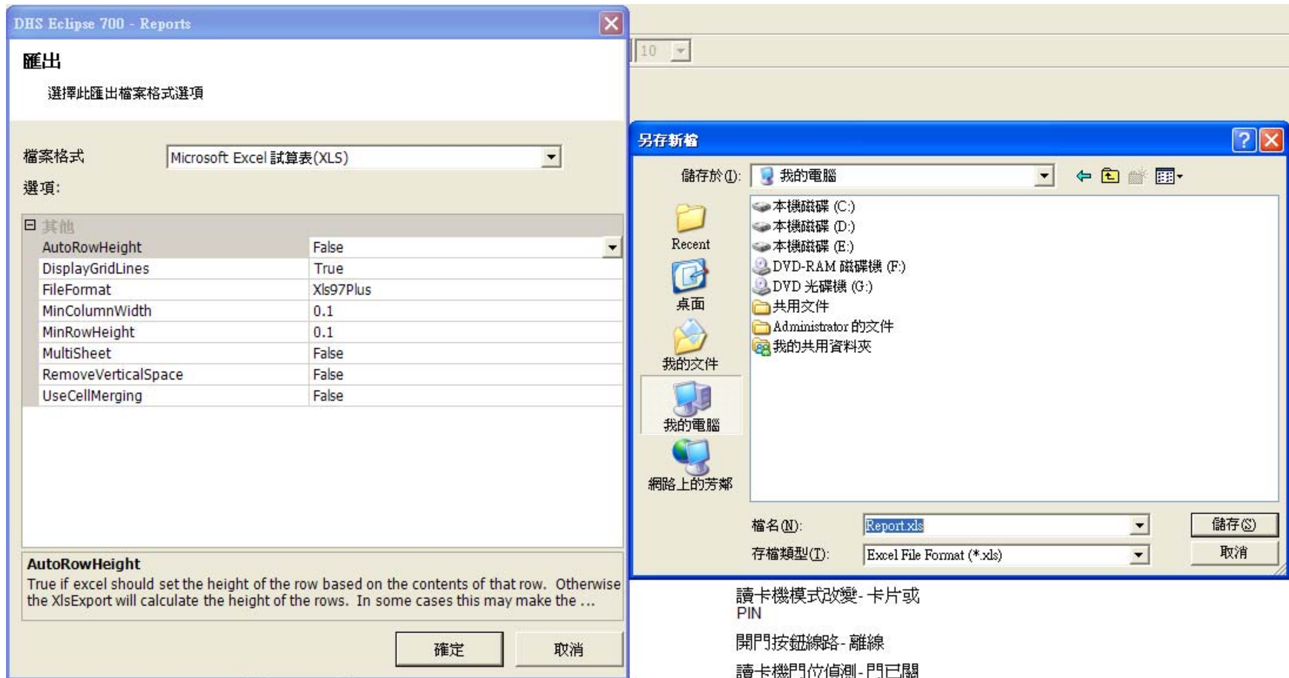
純文字

ActiveReport Document Format (RDF)

點選匯出後會跳出以下選擇匯出格式的畫面，在此以 XLS 做範例。



選取格式後，設定相關參數(一般使用預設即可)，按確定後輸入檔名及儲存路徑後按儲存即可。



Windows Services 系統服務

Application Server

The Application Server is the heart of the Eclipse 700™ system. It is the only component that communicates directly with the database engine. It is a TCP socket server that accepts connections from both the gateways and clients and provides a generic transport mechanism for any .NET class object, collection of those objects, or file. It uses the System.Reflection namespace to interrogate the transport objects in real-time and determines which stored procedures are to be executed. It also controls which clients have access to data and routes messages from the gateways to the correct clients. All communication is handled asynchronously and has the following options on encryption from the System.Security.Cryptography namespace:

- No Encryption
- RC2
- DES
- TripleDES (128 or 192 bit keys)
- AES/Rijndael (128, 192, or 256 bit keys)

Both clients and gateways can be configured for DHCP as the Application Server tracks each incoming connection by its current IP Address. Since only .NET class objects are transported over the network socket connection, there is no need for any database knowledge at either the client or the gateway. This not only provides an increased level of security to the database but also requires only a SQL client license for the

Application Server and not for each gateway/client connection. In addition, the optional encryption on every network packet provides a secure Internet connection without the need for specialized hardware or VPN client software.

Gateway

Gateway Service
The Gateway is the software service component that communicates with the field hardware and the Application Server. It receives .NET class objects for the hardware that it is responsible for servicing. All transactions generated by the hardware are formatted into a .NET class object for transport back to the Application Server.

The service can reside on the same machine as the application server, another machine on the network, or across the Internet. The service supports static IP Addresses as well as the default of DHCP. Currently, the Gateway supports two different types of hardware. Both of these are from Mercury Security Corporation. Although similar in features, each hardware type has a different number of inputs, outputs, and readers for each panel.

Each hardware type also has a different set of support libraries from Mercury Security Corporation. These libraries (C++ Dlls) handle the communication to the physical hardware and have been wrapped into a .NET class that is included in the Gateway service. Each hardware type has a slightly different version of the Gateway service yet both receive and output the exact same objects.

資料庫

概要

Eclipse 700™ 使用的資料庫引擎爲 Microsoft SQL 2000/2005。不同的版本(MSDE/SQL Express)也有支援。安中光碟中所附的版本爲英文版的 SQL Express 及其管理工具。
資料庫中使用預存程序(Stored procedures)來處理資料的寫入及讀取，每一個資料表(table)至少擁有四個用以建立，取回，更新及刪除這些列表式資料的預存程序。
系統中只有 Application Server 會以 SQL 驗證(SQL Authentication)的方式經由 TCP Port：1433(default)與資料庫作資料的交換。

使用預先安裝的SQL Server

假如系統中已有預先安裝好的 SQL Server，於安裝系統時可選擇只安裝 Application Server。
安裝光碟中的安裝精靈會引導你將資料庫安裝於你想安裝的機器上。

安裝資料庫於預先安裝的**SQL Server**

步驟如下：

停止 Application Server 系統服務

以 SQL Server Management Studio 登入資料庫

將資料庫 DHS_Main 附加進 SQL Server 中

新增一使用者：帳號：dhsuser，SQL 驗證密碼：eclip$e

開啓 SQL Server Configuration Manager

啓用 TCP/IP 功能，將 TCP Port 設爲 1433

重新啓動 SQL Server 系統服務

啓動 Application Server 系統服務

上述帳號、密碼、TCP Port 如需變更，請將 Eclipse Database.config 中之相關設定值一併變更，變更後需重新啓動 Application Server 系統服務。

軟體安裝

概要

Eclipse 700 安裝光碟中，包含了 Application Server, Client GUI, Gateway, 及所有其他所需之軟體組件。本軟體建立於 Windows .NET framework 及 SQL 資料庫技術上。由於 Eclipse 700 是以上述軟體環境爲基礎，所以系統安裝的軟硬體環境必須符合需求。

Eclipse 系列是設計於標準的 Intel PC 上執行。Eclipse 700 可規劃於同一台電腦上運行，也可將各組件安裝於不同的電腦上經由網路做連結。當安裝於不同的電腦上時硬體的建議規格如下，Intel Pentium IV 2.8GHz, 處理器，1 MB cache，512MB RAM，CD ROM，Windows XP Professional with Service Pack 2。建議使用 17 吋(1280 x1024)以上螢幕。

安裝過程中將會檢查作業系統是否符合軟體的最低需求，安裝光碟中已內含 .NET framework 1.1 及 .NET framework 2.0 及免費的 SQL Express，上述軟體也可自行由微軟網站下載使用。

支援的作業系統版本

由於 Eclipse 700 是建立於 Microsoft .NET framework 上。所以只有支援.NET framework 且符合網路功能需求的作業系統可以安裝本系統。符合需求的作業系統如下所示：

- Windows XP Professional
- Windows XP Professional x64 Edition
- Windows Server 2003 Service Pack 1 for Itanium-based Systems

• Windows Server 2003, Standard x64 Edition

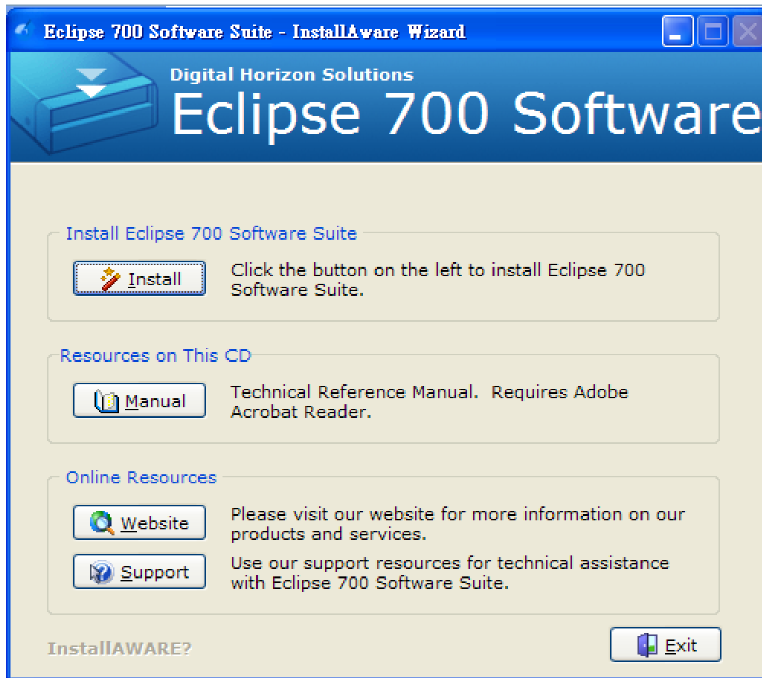
• Windows Server 2003, Enterprise x64 Edition

• Windows Server 2003, Datacenter x64 Edition

安裝Eclipse 700

當你準備好所需之 PC，將安裝光碟放入 CD ROM 中，安裝程式將會自動執行，假如 PC 缺少必須之軟體組件，安裝程式將會替您安裝(此過程可能需要重開機)，待全部軟體組件都安裝完成，就可以開始安裝 Eclipse 700。

安裝程式自動執行後將會看到下面畫面。



點選“Install”後將會看到下面畫面。



第一個程式是 Application Server。此程式提供您系統中的 database, clients, gateways 間溝通的介面。有 2 種安裝 Application Server 的方式。假如此 Application Server 需與其他應用程式的 client 做連接，此電腦需要一個靜態 IP(Static IP)位址。

第一種方式爲安裝 Application Server 與 Microsoft SQL Server 2005 Express Edition。此爲免費版的 SQL Server。

第二種方式爲安裝 Application Server 於已有預先安裝 SQL Server 2000/2005 的環境。如果選則此選項，你必須預先安裝 Microsoft SQL Server 2000/2005。Microsoft SQL Server 2000/2005 是需要付費購買授權的。

當 Application Server 安裝完成後，就可以開始安裝 Gateway Service Driver，此 driver 是用來與所選用的 Mercury 門禁控制硬體做通訊，Mercury 提供了二種系列的硬體產品：SCP 系列及 AP 系列；而每一台電腦只能夠安裝上述二系列中 Gateway 的其中一個，如需使用到多個 Gateway 則需安裝於另外的獨立電腦上。

Application Server 及 Gateway Service Driver 安裝完成後，就可以安裝 Graphical User Interface (GUI)。假如你要設立一台遠端控制工作站連接至一個遠端 Application Server，你只需要在此電腦上安裝 GUI。

當全部所需的 Eclipse 700 軟體皆已安裝完畢，現在可以準備開始使用本系統了。

硬體設定

概要

SPM(System Processor Module 系統處理模組)爲本系統之主要控制板，此控制板儲存持卡人及警報資料。SPM 處理所有的暫存資料並與其下屬之設備通訊，並且將資料傳送至通訊控制軟體(Gateway Service)。SPM 透過 serial 或 LAN 與 Gateway 通訊，傳輸速率可達 38.4K bps，且可連接 32 個子控制板。SPM 支援連線模式下以 FLASH 技術進行韌體更新(Firmware Update)。SPM 另有以下功能：

內建 Real Time Clock (GMT)

"If…then.." 亘指令相容性

內建鋰電池於停電時可保存資料

可連接 Lantronix Cobox Micro 乙太網路擴充卡

內建破壞(Tamper)及電源失效(Power Fail)警報

NOTE：SPM 爲主控制器之通稱，Gateway Service 可支援三種類型之 SPM(AP，SCP 及 EP)，此三種 SPM 擁有不同之特性，詳細特性於硬體手冊中詳述

Intelligent Controllers									
	Communications	Memory	Power	Readers	Inputs	Outputs	RS-485 Reader port	Biometric Template Management	Asset Tracking
AP-SPM	RS-232 RS-485 Lantronix Interface	1 Mb	10 - 28 VDC	2	4	2	Yes	Yes	Yes
SPM-C	RS-232 RS-485 Lantronix Interface	512 Kb	12 VDC 12 VAC	0	0	0	No	No	No
SPM-S	RS-232 RS-485	1 Mb to 4 Mb	12 VDC 12 VAC	0	0	0	No	No	No
SPM-E	RS-232 RS-485 Lantronix Interface Redundant Host Port	1 Mb to 8 Mb	12 VDC 12 VAC	0	0	0	No	Yes	Yes

EP-2500	RS-232 RS-485 Lantronix Interface Redundant Host Port Onboard Ethernet	12 Mb	10 - 28 VDC	0	0	0	No	Yes	Yes
EP-1502	RS-232 RS-485 Lantronix Interface Onboard Ethernet	6 Mb	10 - 28 VDC	2	8	4	Yes	Yes	Yes

Interface Panels							
	Communications	Power	Readers	Inputs	Outputs	RS-485 Reader port	Intelligent Controller
AP-DDM	2-wire RS-485	10 - 28 VDC	2	4	2	Yes	AP-SPM
AP-ICM	2-wire RS-485	10 - 28 VDC	0	8	0	No	AP-SPM
AP-OCM	2-wire RS-485	10 - 28 VDC	0	0	8	No	AP-SPM
DDM	2-wire RS-485 4-wire RS-485	12VDC 12VAC	2	8	6	Yes	SPM-C, SPM-S, SPM-E, EP-2500, EP-1502
ICM	2-wire RS-485 4-wire RS-485	12 VDC 12 VAC	0	16	2	No	SPM-C, SPM-S, SPM-E, EP-2500, EP-1502
OCM	2-wire RS-485 4-wire RS-485	12 VDC 12 VAC	0	0	16	No	SPM-C, SPM-S, SPM-E, EP-2500, EP-1502
SDM	2-wire RS-485	12 VDC	1	2	2	No	SPM-C, SPM-S, SPM-E, EP-2500, EP-1502

Gateway 組態設定

此頁面只有以系統管理員權限登入才能開啓此 Gateway 組態設定頁面，此頁面提供手動新增 Gateway 的功能(建議使用 Gateway Wizard)。移除 Gateway 也必須由此頁面方能執行。

新增 Gateway 新增一個 Gateway

敘述 變更所選 Gateway 的名稱

Gateway 種類 此處是用來選擇你要新增的 Gateway 種類此下拉選單只有當你點擊新增 Gateway 後尚未儲存時方能使用。當你儲存過後此處將無法變更。

IP 位址 此處欄位在你新增 Gateway 時將會自動填入目前操作電腦的 IP 位址。此處的數值僅作顯示用途，並不會影響實際 Gateway 的任何設定。

通訊埠編號 目前未使用。

測試 按下此按鈕會與上方所填入的 IP 位址做連線測試。

GUID 顯示目前 Gateway 的 GUID。

SPM 組態設定

SPM 在此系統中爲主要的訊息及資料的傳遞中樞，SPM 處理門禁刷卡請求，與子控制板通訊，處理 if..than.. 的邏輯運算及回報狀態之改變與即時事件至 Gateway Service。SPM 內建 real time clock 與儲存資料庫、設定值及暫存訊息的記憶體。在硬體瀏覽的頁籤裡點選 SPM 即可叫出該 SPM 之內容，如下圖所示。

一般

型式　後面顯示現在檢視 SPM 的型號。

敘述　此欄位允許使用者變更此 SPM 的名稱。最多 50 個字元(25 個中文字)。

連接控制　下拉選單改變軟體啓動時與 SPM 的連結方式。選項及簡述如下。

自動化 – 軟體啓動時將自動與 SPM 連結。此爲預設值。

手動 – 此選項僅能由樹狀圖中右鍵點選 SPM 來連接。

手動後斷線 – 當與 SPM 之連接方式爲以數據機連接時此選項此可使用。軟體啓動時會撥號至 SPM，當全部的暫存資料下載完畢後將自動斷線。

通訊通道　下拉選單選擇此 SPM 之通訊通道。通訊通道由各 Gateway 設定。

重試次數　此欄位允許使用者變更 SPM 回報離線前的重試次數。

輪詢延遲　此欄位用於設定與 SPM 的輪詢時間(milliseconds)。

離線逾時　此數值爲 SPM 認定本身離線的時間。注意：此與通訊通道中的離線逾時不同。

IP 位址　此欄位只能輸入標準的 IPV4 格式之數字。此爲此 SPM 之固定 IP。如要以網路方式與 SPM 連接需要一個 Serial to LAN 轉換器，此轉換器之可能形式爲附加子板或外接設備。

通訊埠編號　此欄位爲以 TCP/IP 方式連接至特定 IP 之通訊埠。預設值爲 3001。

DIP 設定　此圖示使用者無法變更。此圖示代表此 SPM 之 DIP 應調整爲如圖所示。

需要密碼　勾選此功能後每次要與 SPM 做通訊時將會要求輸入密碼。此功能僅能在網路及數據機通訊模式下使用，序列傳輸時無此功能。Note：當啓用此功能後 DIP 8 需調整至 ON，然後重新啓動 SPM 的電源使設定成功變更。

與控制板通訊之 Baud 速率　下拉選單選擇 SPM 與其子控制板的通訊速率。可用速率有 2400，9600，19200 及 38400。

啓用　此功能控制是否與 SPM 通訊。假如此選項未選取，Gateway service 將不會與此 SPM 通訊。<u>只有系統管理者有權限更改此設定。</u>

共享的 SPM　此功能使登入的使用者僅能瀏覽但無法變更該 SPM 下之門禁層級及讀卡機排程。<u>只有系統管理者有權限更改此設定。</u>

進階

啓用區域控制　此功能與 APB(反折返)功能關係密切，但加入了區域人數計數的功能。

啓用備用通訊埠　此功能可啓用第二通訊埠做爲備援使用，但此功能只在 SPM-E 系列才有支援。

無進入權限時下載持卡人資訊　勾選此功能後，如無進入權限 Gateway 將會去下載此持卡人的資料。如未勾選系統將不會下載在此 SPM 下無進入權限的持卡人資料。在這二種情況下，此持卡人都會被拒絕進入(因爲此人並無權限)，但是系統顯示之拒絕訊息將會不同，當持卡人資料未下載時，顯示訊息爲 拒絕進入- 無資料。當持卡人資料有下載時，顯示訊息爲 拒絕進入- 不在此排程。這二種訊息都可作爲連動控制之觸發條件。另外有一點需注意的就是 拒絕進入- 錯誤的排程 爲另一種拒絕原因，此訊息代表此持卡人有此讀卡機之權限但該讀卡機的排程尚未啓動。

序號／修定控制　此功能允許將序號檢查當作通訊協定的一部分。如設定爲**最低可允許序號**爲 0(預設值)，**最高可允許序號**爲-1(預設值)，系統將會與任何序號之 SPM 作通訊。假如將此數值設定爲特定序號或一個序號範圍值，Gateway 將只會與符合該數值的 SPM 做通訊。

範本

此頁面是用來新增控制板至此 SPM。範本列表顯示該 SPM 所支援的控制板。點選列表中要增加的控制板種類後下拉選單選擇**新增數量**後點選**新增至 SPM**。所選之控制板將會新增至該 SPM。

範本細節　會顯示所選控制板的詳細規格，例如輸入點數目及輸出點數目。變更及新增範本目前無法使用，未來將會啓用。

時區

此頁面是用來檢視或變更 SPM 的時區設定。初始安裝時，系統將會以 OS 的時區設定做爲預設時區。當新增之 SPM 位於不同時區時，變更 SPM 時區設定爲該 SPM 所在地點的時區是必要的，這會影響到週排程的設定。

SPM 內容

一般 | 進階 | 加密 | 範本 | 時區 | 記憶體選項 | 生物辨識 | 韌體 | 監控 | 歷史紀錄 | 稽核

世界時區

(GMT+08:00) 台北

啟用日光節約時間

設定

選擇年度 2007

起始日期 2004/6/30

起始時間 __:__ __

結束日期 2004/6/30

結束時間 __:__ __

世界時區　下拉選單可顯示全球的時區，選擇最接近該 SPM 地理位置之時區。

啓用日光節約時間　勾選以啓用此功能。並非所有的時區都有日光節約時間。設定值顯示所選時區之預設值。

選則年度　下拉選單可選取可用年度(2006~2025)　，選擇年度以顯示該年的設定值。

起始日期　下拉選單選擇該年度之起始日期。

結束日期　下拉選單選擇該年度之結束日期。

起始時間　下拉選單選擇該日期之起始時間。

結束時間　下拉選單選擇該日期之結束時間。

NOTE：上述設定值須依當地政府的時間調整而做變更。任何對於時區的設定更動均需要對 **SPM** 做重置**(Reset)**或初始設定才會有效。

記憶體選項

此頁面是用來設定此 SPM 的記憶體定址，以下的每一個設定都會影響到所需要的總記憶體數量，改變記憶體定址可以增加持卡人的容量，暫存資訊的緩衝區等… **此頁面之設定要小心使用以免發生非預期的錯誤**。

SPM 內容

一般 | 進階 | 加密 | 範本 | 時區 | 記憶體選項 | 生物辨識 | 韌體 | 監控 | 歷史紀錄 | 稽核

持卡人選項

持卡人 20000

每一門禁層級讀卡機數量 0

PIN 字元數 8

每一個持卡人的門禁層級數 6

啟用日期：只有日期 / 日期和時間

停用日期：只有日期 / 日期和時間

APB位置

資產群組

支援時間制 APB

使用者群組

發行碼

持卡人使用者群組數 8

假期時段

使用次數限制

臨時門禁層級

作動資訊緩衝區

作動資訊 10000

作動資訊暫存量限制 80%

連動控制

觸發器 1000

程序 1000

持卡人檔案大小 52 Bytes

SPM 所須記憶體量

1,249,000 Bytes

1,219.73 KB

1.1911 MB

監控

此頁面允許管理員或使用者來定義此 SPM 之事件通知路徑，“事件”一詞在此處是用以取代“警報”，因爲有些事件並不屬於警報。例如:隔離，故障，安全或刷卡紀錄。

SPM 內容 | 篩選設定

一般 | 進階 | 加密 | 範本 | 時區 | 記憶體選項 | 生物辨識 | 韌體 | 監控 | 歷史紀錄 | 稽核

事件傳遞

事件傳遞路徑 New

主要優先性 0

裝置類型 Panel

使用此篩選器 新篩選器

需要做確認

啟用音效

事件傳遞路徑　下拉選單選擇此 SPM 所用之傳遞路徑。

主要優先性　設定此 SPM 的事件優先性。可用值範圍爲 0~99，0 爲最高優先性。

裝置類型　下拉選單可選擇由使用者定義之裝置類型。裝置類型可以是爲此裝置特製或是多種設備共用同一種裝置類型。

使用此篩選器　此選項可控制使用者在即時事件中可看到之訊息。如果選擇“無”所有的訊息都會傳達給使用者(Client)看見，如選定其他篩選器，只有所選擇的訊息會傳達給 Client，無論是選擇何種篩選器，所有的訊息都會儲存在資料庫中。

需要作確認　此選項與篩選器有相關聯。當在篩選器中所選之訊息種類與此裝置相符合，且所選訊息也有啓用確認。在此情況下如有勾選此功能，需作確認之訊息將會在警報及即時訊息視窗中顯示。

啓用音效　所選之裝置類型如有設定警報音效，勾選此功能可在當有警報時播放音效。

歷史紀錄

此頁面可用來搜尋此 SPM 的最近 100 筆訊息。

SPM 內容

一般 | 進階 | 加密 | 範本 | 時區 | 記憶體選項 | 生物辨識 | 韌體 | 監控 | 歷史紀錄 | 稽核

系統訊息種類

所有系統訊息

搜尋

拖曳欄位置至此作分類排序.

記錄時間(伺服器)	記錄時間(SPM)	Gateway	SPM	位置	訊息	細節
2007/12/27 15:58:42	2007/12/27 15:58:40	test	Test SPM	Test SPM	SPM - 連線	
2007/12/27 15:58:42	2007/12/27 11:27:17	test	Test SPM	Test SPM	SPM - 離線 = 逾時	
2007/12/27 15:58:42	2007/12/27 15:58:42	test	Test SPM	Test SPM	作動資訊報告	Capacity=10000 Oldest=1 Last Reported=20
2007/12/27 15:58:42	2007/12/27 15:58:42	test	Test SPM	Test SPM	SPM ID 報告	Rev=3.94 S/N=17514 3703922/4187288 Clo
2007/12/27 15:58:42	2007/12/27 15:58:42	test	Test SPM	Test SPM	SPM - 連線	SPM On-Line
2007/12/27 09:45:52	2007/12/26 14:39:22	test	Test SPM	Test SPM	SPM 啓動偵錯	
2007/12/27 09:45:52	2007/12/27 09:45:37	test	Test SPM	Test SPM	SPM - 連線	
2007/12/27 09:45:52	2007/12/27 09:45:37	test	Test SPM	Test SPM	SPM 啓動偵錯	
2007/12/27 09:45:51	2007/12/21 19:20:57	test	Test SPM	Test SPM	SPM - 離線 = 逾時	
2007/12/27 09:45:51	2007/12/27 09:45:51	test	Test SPM	Test SPM	作動資訊報告	Capacity=10000 Oldest=1 Last Reported=19
2007/12/27 09:45:51	2007/12/24 16:21:23	test	Test SPM	Test SPM	SPM 啓動偵錯	

系統訊息種類　下拉選單可選擇想搜尋的訊息種類。

搜尋　點選此按鈕後執行搜尋

稽核

此頁面是用來查詢使用者(操作員)對此 SPM 所作過的設定值變更紀錄。

SPM 內容

一般 | 進階 | 加密 | 範本 | 時區 | 記憶體選項 | 生物辨識 | 韌體 | 監控 | 歷史紀錄 | 稽核

搜尋

拖曳欄位置至此作分類排序.

記錄時間(伺服器)	使用者名稱	指令類型	細節
2007/10/2 14:26:12	admin	覆寫	
2007/10/2 14:21:42	admin	覆寫	
2007/10/2 10:59:55	admin	設定值變更	
2007/10/2 10:59:39	admin	設定值變更	

內容	舊數值	新數值
RouteID	Default	

記錄時間(伺服器)	使用者名稱	指令類型	細節
2007/10/2 10:59:12	admin	設定值變更	

內容	舊數值	新數值
RouteID		Default

記錄時間(伺服器)	使用者名稱	指令類型	細節
2007/10/2 10:58:35	admin	設定值變更	
2007/10/2 10:55:35	admin	設定值變更	
2007/10/2 10:55:09	admin	設定值變更	

內容	舊數值	新數值
FilterID	67312556-b69f-46d0-bcf7-b593712553be	Door

記錄時間(伺服器)	使用者名稱	指令類型	細節
2007/10/2 10:52:34	admin	設定值變更	

內容	舊數值	新數值
FilterID	5fda2234-bb92-45bd-b908-af4da4dcdfe2	67312556-b69f-46d0-bcf7-b593712553be

記錄時間(伺服器)	使用者名稱	指令類型	細節
2007/10/2 10:49:58	admin	設定值變更	
2007/10/2 10:49:39	admin	設定值變更	
2007/10/2 10:44:17	admin	設定值變更	
2007/10/2 10:44:01	admin	設定值變更	

控制板組態設定

在本系統中 SDM, DDM, ICM 及 OCM 皆屬控制板。控制板以 RS-485 通訊與 SPM，最長距離可達 1200 公尺。

一般

敘述　此欄位允許使用者變更此控制板的名稱。最多 50 個字元(25 個中文字)。

啓用通訊　勾選此功能會啓用此控制板與 SPM 間之通訊，取消選取後儲存設定之後 SPM 將會停止與此控制板之間的通訊。

最大錯誤值　下拉選單選擇 SPM 回報此控制板離線前之重試次數，預設值爲 3 次，可依需求更改爲其他值(0~255)。如果設備安裝現場的電子雜訊干擾較嚴重的話，可改變此處之設定值。

SPM 通訊埠　下拉選單選擇 SPM 與此控制板通訊的通訊埠。此選項只有 SCP 系列的 SPM 有，在 AP 系列中只有 TR2 可使用。2-線 RS-485 在全系列之控制板下可使用，但 4-線 RS-485 只有 SCP 系列之 SPM 有支援。

DIP 設定　此圖示使用者無法變更。此圖示代表此控制板之 DIP 應調整爲如圖所示。

控制板詳細內容　此處顯示此控制板的詳細資訊。其所代表意義簡述如下。

＊ 序號 – 此序號爲唯一且不可變更的控制板生產編號。此處的資訊需當此控制板爲連線且由使用者對此控制板下狀態回報指令時才會顯示。

＊ 型式 – 顯示此控制板的型式。此資訊永遠顯示。

＊ 韌體版本 – 顯示此控制板的韌體版本。此資訊需在此控制板爲連線且由使用者對此控制板下狀態回報指令時才會顯示。

＊ 啓動後累計重試次數 – 此處顯示自此控制板新增或 SPM 重置之後到目前的連線重試次數。在 24 小時內如發現此數值過大(>100)，代表此控制板與 SPM 的通訊有問題。此資訊需在此控制板爲連線且由使用者對此控制板下狀態回報指令時才會顯示。

進階

控制板內容

一般 | 進階 | 韌體 | 監控 | 歷史紀錄 | 稽核

序號/修訂控制

最低可允許序號

0

最高可允許序號

-1

最低可允許韌體版本

0

輸入點反向掃描

序號／修定控制 此功能允許將序號檢查當作通訊協定的一部分。如設定爲**最低可允許序號**爲 0(預設值)，**最高可允許序號**爲-1(預設值)，系統將會與任何序號之 SPM 作通訊。假如將此數值設定爲特定序號或一個序號範圍值，Gateway 將只會與符合該數值的控制板做通訊。

監控

此頁面允許管理員或使用者來定義此控制板之事件通知路徑，“事件”一詞在此處是用以取代“警報”，因爲有些事件並不屬於警報。例如：隔離、故障、安全或刷卡紀錄。

事件傳遞路徑　下拉選單選擇此控制板所用之傳遞路徑。

主要優先性　設定此控制板的事件優先性。可用值範圍爲 0~99，0 爲最高優先性。

裝置類型　下拉選單可選擇由使用者定義之裝置類型。裝置類型可以是爲此裝置特製或是多種設備共用同一種裝置類型。

使用此篩選器　此選項可控制使用者在即時事件中可看到之訊息。如果選擇“無”所有的訊息都會傳達給使用者(Client)看見，如選定其他篩選器，只有所選擇的訊息會傳達給 Client，無論是選擇何種篩選器，所有的訊息都會儲存在資料庫中。

需要作確認　此選項與篩選器有相關聯。當在篩選器中所選之訊息種類與此裝置相符合，且所選訊息也有啓用確認。在此情況下如有勾選此功能，需作確認之訊息將會在警報及即時訊息視窗中顯示。

啓用音效　所選之裝置類型如有設定警報音效，勾選此功能可在當有警報時播放音效。

歷史紀錄

此頁面可用來搜尋此控制板的最近 100 筆訊息。

控制板內容

一般 | 進階 | 韌體 | 監控 | 歷史紀錄 | 稽核

系統訊息種類

所有系統訊息

搜尋

拖曳欄位置至此作分類排序.

記錄時間(伺服器)	記錄時間(SPM)	Gateway	SPM	位置	訊息	細節
2007/11/5 17:25:42	2007/11/5 17:25:34	test	Test SPM	DDM TR2	控制板 - 破壞警報	
2007/11/5 17:25:42	2007/11/5 17:25:33	test	Test SPM	DDM TR2	控制板 - 連線	S/N: 209186
2007/11/5 17:25:42	2007/11/5 17:25:34	test	Test SPM	DDM TR2	控制板 - 電源正常	
2007/11/5 17:25:34	2007/11/5 17:25:34	test	Test SPM	DDM TR2	控制板 - 電源正常	
2007/11/5 17:25:34	2007/11/5 17:25:34	test	Test SPM	DDM TR2	控制板 - 破壞警報	
2007/11/5 17:25:34	2007/11/5 17:25:33	test	Test SPM	DDM TR2	控制板 - 連線	S/N: 209186
2007/10/31 15:30:16	2007/10/31 15:30:09	test	Test SPM	DDM TR2	控制板 - 電源正常	
2007/10/31 15:30:16	2007/10/31 15:30:09	test	Test SPM	DDM TR2	控制板 - 破壞警報	
2007/10/31 15:30:16	2007/10/31 15:30:08	test	Test SPM	DDM TR2	控制板 - 連線	S/N: 209186
2007/10/31 15:30:09	2007/10/31 15:30:09	test	Test SPM	DDM TR2	控制板 - 破壞警報	
2007/10/31 15:30:09	2007/10/31 15:30:09	test	Test SPM	DDM TR2	控制板 - 電源正常	

系統訊息種類　下拉選單可選擇想搜尋的訊息種類。

搜尋　點選此按鈕後執行搜尋

稽核

此頁面是用來查詢使用者(操作員)對此控制板所作過的設定值變更紀錄。

控制板內容

一般 | 進階 | 韌體 | 監控 | 歷史紀錄 | 稽核

搜尋

拖曳欄位置至此作分類排序.

記錄時間(伺服器)	使用者名稱	指令類型	細節
2007/10/1 18:13:05	admin	建立控制板	

內容	舊數值	新數值
SPMID		ce28076f-6683-4568-a958-afee1abaaf0e
NumberOfOutputs	0	6
Enable_Comm	False	True
NumberOfReaders	0	2
Max_Error	0	3
Model	0	84
SerialNum_High	0	-1
Enabled	False	True
NumberOfInputes	0	8
PanelID		ef49d5e1-af2d-4ac7-ae12-b8801d633899
Description		Dual Door Module (DDM)

讀卡機組態設定

讀卡機在此系統中控制著進入或離開出入口。此讀卡機技術用來辨識持卡人並以 magstripe (data/clock) 或 Wiegand (data1/dat0)格式輸出。讀卡技術包含條碼，感應讀卡或掌紋及指紋的生物辨識。本系統支援上述之技術，且每一SPM可支援8種卡片格式。此系統中讀卡機是以實體線路連接至SPM或DDM。

一般

讀卡機屬性

一般 | 進階 | 資料介面 | 門位監視 | 按鈕開門 | Relay控制 | 拒絕計數 | 監控 | 歷史紀錄 | 稽核

敘述
B1 天井出口 0.1 R0001

模式
預設連線模式 只使用卡片
預設 LED 模式 模式 1
離線模式 解鎖

主讀卡機/副讀卡機
讀卡機功能 單一讀卡機
副讀卡機

APB
模式 無
進入區域 進入區域 0
持續時間 0 時 0 分 0 秒
離開區域 進入區域 0

讀卡機位置
控制板位址 0
實體讀卡機埠 1

敘述 此欄位允許使用者變更此讀卡機的名稱。最多 50 個字元(25 個中文字)。

預設連線模式 下拉選單可選擇當此讀卡機的初始模式。讀卡機模式在任何時間皆可由右鍵選單或連動控制做更改。改變此處的設定並不會影響目前的讀卡機模式。各種模式於後簡述。

＊ 鎖住，開門按鈕無效 – 此模式將會拒絕所有持卡人的刷卡，並且按鈕開門也將失效。

＊ 鎖住，開門按鈕 – 此模式將會拒絕所有持卡人的刷卡，但可使用按鈕開門。

＊ 解鎖 – 此模式下所有的持卡人都可通行，如持卡人有刷卡的動作，即時訊息將顯示，允許通行- 卡機解鎖。

＊ 內碼 – 此模式下，只要卡片格式正確及可通行，系統並不會去檢查卡號或門禁層級。但是，卡片的資

訊還是會紀錄。

＊ 只使用卡片 – 此模式下，卡片需有正確的格式及內碼，卡號狀態需爲啓用，且此卡號需有相符合的門禁層級。

＊ 只使用PIN – 此模式下，需經由整合式鍵盤輸入正確的PIN碼，而此PIN需有合法的持卡人且有正確的門禁層級。

＊ 卡片或PIN碼 – 此模式下，卡片需有正確的格式及內碼，卡號狀態需爲啓用，且此卡號需有合法的持卡人相及符合的門禁層級；或經由整合式鍵盤輸入正確的PIN碼，而此PIN需有合法的持卡人且有正確的門禁層級。

＊ 卡片及PIN碼 – 此模式下，合法持卡人出示格式及內碼皆爲正確的卡片後需再經由整合式鍵盤輸入正確的PIN碼。

離線模式　下拉選單選擇當此讀卡機所接之SDM或DDM與SPM離線時的讀卡機模式，下列模式爲可用之離線模式。

＊ 鎖住，開門按鈕無效 – 此模式將會拒絕所有持卡人的刷卡，並且按鈕開門也將失效。

＊ 鎖住，開門按鈕 – 此模式將會拒絕所有持卡人的刷卡，但可使用按鈕開門。

＊ 解鎖 – 此模式下所有的持卡人都可通行，如持卡人有刷卡的動作，即時訊息將顯示，允許通行- 卡機解鎖。

＊ 內碼 – 此模式下，只要卡片格式及內碼正確即可通行。

因爲DDM本身並無儲存持卡人資料庫，週排程及門禁層級，所以需要用到資料庫來判斷是否允許通行的模式在DDM離線時都無法使用。

預設LED模式　下拉選單可選擇可使用的LED模式。LED模式是用來以燈號來判斷讀卡機於何種模式下，或者是提示刷卡狀態(允許，拒絕等)，蜂鳴器也可自定義。

讀卡機功能　下拉選單選擇可用的功能。可將讀卡機設定爲單一讀卡機，主讀卡機，副讀卡機或是旋轉門讀卡機，各種讀卡機功能於後簡述。

＊ 單一讀卡機 – 卡機，門位偵測，開門按鈕訊號，解鎖訊號皆在同一張SDM或DDM上。

＊ 主讀卡機 – 此種主讀卡機功能運作時就像單一讀卡機一樣，只是多了一個配對的副讀卡機，而此二個

讀卡機的刷卡紀錄也各自獨立，但副讀卡機與主讀卡機使用同一組的門位偵測、開門按鈕、解鎖訊號。這種主副讀卡機功能可位於同一張DDM或不同的DDM或是SDM+DDM或是DDM+SDM。

* 副讀卡機 – 副讀卡機與主讀卡機使用同一組門位偵測，開門按鈕，解鎖訊號。此卡機原本所使用之門位偵測，開門按鈕，解鎖訊號將會停用。

* 旋轉門 – 此為一特殊的讀卡機功能。

副讀卡機 下拉選單可選擇可設定為副讀卡機的單一讀卡機，假如該讀讀卡機已經是副讀卡機，此處將無法使用且會顯示與其配對之主讀卡機。

主副讀卡機的設定步驟為，先將一單一讀卡機設定為主讀卡機，再選定與其配對之副讀卡機，儲存；被選取的副讀卡機之讀卡機功能處將會顯示為副讀卡機，副讀卡機處將會變為與其配對的主讀卡機。

APB APB(Anti-PassBack) 意指反潛回功能。下拉選單選擇可用的模式。APB模式可在同一SPM下以任何的組合方始使用。所有可用的APM模式如後簡述。

* 無 – 此為讀卡機APB模式的預設值。

* 柔性APB – 此選項將允許持卡人刷卡進入(前提是要有該門之進入權限)，而無視該持卡人的目前APB區域，當某一持卡人違反APB規則時，系統將會在即時事件顯示“允許進入－違反APB” ，而當該持卡人確實有開啓該門時，該持卡人將會在他所進入的區域內。

* 硬性APB – 此選項下持卡人刷卡時必須在正確的區域中，如持卡人在錯誤的區域刷卡，該持卡人將會被拒絕進入，系統也會在即時事件顯示“拒絕進入－違反APB”，當此情形一發生，所有的讀卡機都將拒絕該持卡人的刷卡，不論該持卡人是否回到了正確的區域中。

* 時間模式-讀卡機 – 此選項只使用一個讀卡機來控制APB區域，由於只使用一個讀卡機所以需要一個時間條件來重設狀態，這代表違反APB的持卡人將會有一段時間無法刷卡。在此模式是以讀卡機為基準，所以違反APB的持卡人必須等待一段時間或是有另一合法持可人刷卡後始得繼續使用卡片。

* 時間模式-使用者 – 此選項只使用一個讀卡機來控制APB區域，由於只使用一個讀卡機所以需要一個時間條件來重設狀態，這代表違反APB的持卡人將會有一段時間無法刷卡。在此模式是以持卡人為基準，所以違反APB的持卡人必須等待一段時間後才能夠繼續使用卡片。

* 時間模式-硬性-轉換為柔性 - 此選項為二種APB模式的組合，在給定之維持時間內，此讀卡機對全部的持卡人將以硬性APB運作，過了維持時間後，此讀卡機將轉換為柔性APB模式。此模式提供給安全及管理上最佳的APB組合模式。

進入區域及**離開區域**　下拉選單選擇讀卡機的APB區域，APB區域只是以數字來表示當持卡人刷卡通過該讀卡機的位置及狀態。多個讀卡機可分配給不同的區域，或者也可以連續的進出讀卡機來建立網狀區域。可設定之區域有“無或1~32”。

維持時間　此處是讓有時間模式的APB模式用來設定時間。最大時間爲 18時 12分 16秒。

進階

讀卡機屬性
一般 進階 資料介面 門位監視 按鈕開門 Relay控制 拒絕計數 監控 歷史紀錄 稽核
啟用替換讀卡機做生物辨識認證
無
替換讀卡機位址
控制板位址 255
實體讀卡機埠 256
選項
減少持卡人卡片可使用次數
需要做生物辨識
卡片可使用次數需大於 0
允許通行前先與主機確認
拒絕所有脅迫的進入請求
全部准許通行如果主機離線
紀錄所有刷卡紀錄為有進入
啟用輸入代碼模式
按下開門按鈕時不開門
啟用延伸使用者指令
篩選門的狀態改變訊息
先紀錄進入請求,再記錄門的狀態
需出示2張不同持卡人且有權限的卡片
由此讀卡機登記卡號

減少持卡人卡片可用次數　此功能會使此讀卡機減少能通過此讀卡機的卡片數，計數範圍爲0~255。基本上此功能適用在停車場或是其他需要限制人數的場合。

卡片可使用次數需大於 0　此功能將使SPM去檢查持卡人的可使用次數。假如可用次數爲1或大於此SPM的設定值此持卡人才能通行。

拒絕所有脅迫的進入請求　此功能將使SPM拒絕所有持卡人的強制(脅迫)進入要求。強制(脅迫)的情形是當讀卡機處於卡片及PIN碼模式下時，持卡人輸入PIN碼時將PIN碼加1（輸入1235但正確爲1234），系統會准許通行同時即時事件會顯示“准許通行-強制”。某些敏感處所並不允許此狀況，勾選此處以停用此功能。

紀錄所有刷卡紀錄爲有進入　此選項會使SPM忽略門位偵測，將所有合法的刷卡紀錄爲“准許通行”。

按下開門按鈕時不開門　此選項會使SPM隔離此讀卡機的按鈕開門訊號。

篩選門的狀態改變訊息　此選項會使SPM只紀錄此讀卡機重要的資訊。例如 開始門禁刷卡循環，門禁刷卡循環結束，讀卡機解鎖-門開啓，讀卡機解鎖-門關閉之類的訊息都將不會紀錄。

需出示2張不同持卡人且有權限的卡片　此選項會使SPM只接受20秒內有二張合法卡片接續刷卡時才開門。此功能可用在需高度安全的區域。類似金庫或是保險櫃。

需要作生物辨識　此選項會使SPM在出示卡片後要求生物辨識該持卡人。此功能需使用同一張DDM且主要讀卡機爲辨識卡片而第二READER爲生物辨識形式讀頭。

允許通行前先與主機確認　當合法持卡人刷卡後SPM將會與主機確認後才解鎖。

全部准許通行如果主機離線　此選項是由上個選項延生而來，如果主機爲離線，SPM將全部准許通行。

啓用輸入代碼模式　在此特殊模式下，持卡人可以透過鍵盤輸入內碼及卡號來替代實體卡片。

啓用使用者指令項目　此選項可提供連動控制使用，經由使用者輸入指令來觸發動作。

先紀錄進入請求，再紀錄門的狀態　此選項可使SPM先將權限是否正確的訊息回傳以提供給連動控制使用。之後在將門是否有開啓訊息回傳。

由此讀卡機登記卡號　勾選此功能可提供持卡人設定頁面使用。此讀卡機將會顯示把“拒絕通行-無資料”的刷卡紀錄附帶顯示該卡的卡號自動填入新增卡號處。

資料介面

此資料頁面是用來定義此讀卡機介面之訊號類型，鍵盤解碼方式，LED及蜂鳴器的控制及接受哪些卡片格式，某些選項將會排除其他的設定值。

讀卡機屬性
一般 | 進階 | 資料介面 | 門位監視 | 按鈕開門 | Relay控制 | 拒絕計數 | 監控 | 歷史紀錄 | 稽核

卡片資料
- [x] Data 1/Data 0, Wiegand Pulses
- [ ] 消除0位元
- [ ] 格式化為半位元矩陣
- [ ] 允許Bi-directional Mag 解碼
- [ ] 允許Northern Mag 解碼

LED/蜂鳴器
- (•) 一般 單線, 三狀態 雙色
- ( ) 紅綠分開, 無蜂鳴器
- ( ) Dorado 780, 雙線有顏色轉換
- ( ) LCD 顯示

鍵盤篩選器
- ( ) 無鍵盤
- ( ) MR-20 8-bit 不支援破壞警報
- ( ) MR-20 8-bit 支援破壞警報
- (•) 4-bit 格式
- ( ) 8-bit 格式

卡片格式
- [x] 所有格式
- [ ] 格式 0
- [ ] 格式 1
- [ ] 格式 2
- [ ] 格式 3
- [ ] 格式 4
- [ ] 格式 5
- [ ] 格式 6
- [ ] 格式 7

Data 1/Data 0, Wiegand Pulses　勾選此項以接受Wiegand格式。

消除0位元　此選項會使讀卡機自動消除卡片格式的起始0位元。

格式化爲半位元矩陣　checkbox instructs the reader to format the bit stream to a 4-bit value, packed 2 per byte. The upper 4 bits of each byte precedes the lower 4 bits.

允許 Bi-Directional Mag 解碼　checkbox allows the reader to read a magnetic stripe swiped in reverse.

允許 Bi-Directional Mag 解碼　checkbox allows the reader to decode a magnetic swipe card manufactured by Northern Computers.

鍵盤篩選器　此處是用來設定與讀卡機內建鍵盤的數據格式。假如讀卡機並無鍵盤，定義鍵盤格式將不會發生作用。大多數的鍵盤都爲4-bit或8-bit

LED／蜂鳴器　此處用以設定TTL輸出之LED及蜂鳴器，大部分的讀卡機都是使用〝一般 單線，三狀態 雙色〞。

卡片格式　此處可選擇該讀卡機接受的卡片格式。預設爲“所有格式”，意指接受定義給SPM的8種格式。此讀卡機也可接受各種格式組合。

門位偵測

讀卡機屬性

一般 | 進階 | 資料介面 | 門位監視 | 按鈕開門 | Relay控制 | 拒絕計數 | 監控 | 歷史紀錄 | 稽核

啟用

門位監視時序

保持開啟 0 時 0 分 30 秒

ADA/DDA 0 seconds

預警報 0 時 0 分 0 秒

輸入點位置

控制板位址 0

實體輸入點 1

迴路型式

線路監視 未管控，常開

消除震動 3 scans

維持時間 1 second

啓用　如未勾選此處，SDM及DDM將會忽略讀卡機的門位狀態點。預設值爲勾選，系統可經由門位點來判斷允許進入後是否有將門打開。假如此讀卡機設定爲副讀卡機，此處將會自動與主讀卡機相關聯。

保持開啓　此處設定值是用來判斷門多久後未關閉視爲保持開啓。最大值爲 36時 24分 32秒。

ADA／DDA　此處爲設定該門的延長系統回報保持開啓的時間。此選項需要該刷卡的持卡人有此ADA／DDA權限時才有效。(可設定範圍0~255秒)

預警報　保持開啓的數值減去此處的數值即爲系統在即時訊息回報保持開啓預警報的時間點。此預警報事件也可用來作爲連動控制的條件之一。最大值爲 36時 24分 32秒。

線路監視　下拉選單選擇此門位監視點的線路形式。本系統有可對門位輸入點作監控的功能。每一個讀卡機門位監視點皆有4種預設的型式，4種預設型式簡述如後。

＊未管控，常閉 - 閉迴路爲未作動，開回路爲作動。

＊未管控，常開 - 開迴路爲未作動，閉回路爲作動。

＊監視，1K未啓動，2K啓動 - 電阻值爲1KΩ爲未作動，電阻值爲2KΩ爲作動。

＊監視，2K未啓動，1K啓動 - 電阻值爲2KΩ爲未作動，電阻值爲1KΩ爲作動。

消除震動　下拉選單選擇判定線路狀態改變(開迴路變閉迴路或閉迴路變開迴路)前的掃描次數(0~15scans)，此功能可減少誤判情形發生。

維持時間　下拉選單選擇再次判定線路狀態前的時間(0~15秒)，預設值爲0。

按鈕開門

讀卡機屬性

一般 | 進階 | 資料介面 | 門位監視 | 按鈕開門 | Relay控制 | 拒絕計數 | 監控 | 歷史紀錄 | 稽核

開門按鈕 1 內容

線路監視　未管控，常開

維持時間　0 seconds

在此排程停用　無

消除震動　0 scans

輸入點位置 (開門按鈕 1)

控制板位址 0

實體輸入點 2

開門按鈕 2 內容

線路監視　未管控，常閉

維持時間　0 seconds

在此排程停用　無

消除震動　0 scans

輸入點位置 (開門按鈕 2)

控制板位址 255

實體輸入點 256

線路監視　下拉選單選擇此開門按鈕點的線路形式。本系統有可對開門按鈕輸入點作監控的功能。每一個讀卡機開門按鈕輸入點皆有4種預設的型式，4種預設型式簡述如後。

＊未管控，常閉 - 閉迴路爲未作動，開回路爲作動。

＊未管控，常開 - 開迴路爲未作動，閉回路爲作動。

＊監視，1K未啓動，2K啓動 - 電阻值爲1KΩ爲未作動，電阻值爲2KΩ爲作動。

＊監視，2K未啓動，1K啓動 - 電阻值爲2KΩ爲未作動，電阻值爲1KΩ爲作動。

消除震動　下拉選單選擇判定線路狀態改變(開迴路變閉迴路或閉迴路變開迴路)前的掃描次數(0~15scans)，此功能可減少誤判情形發生。

維持時間　下拉選單選擇再次判定線路狀態前的時間(0~15秒)，預設值爲0。

在此排程停用　下拉選則可用的排程。當選定之排程起用時系統將會將此開門按鈕之訊號隔離使其無作用，當排程停止時功能恢復正常。

RELAY控制

讀卡機屬性

一般 | 進階 | 資料介面 | 門位監視 | 按鈕開門 | Relay控制 | 拒絕計數 | 監控 | 歷史紀錄 | 稽核

模式

門開啟時復歸

時序

最小值

3 seconds

最大值

7 seconds

ADA/DDA

0 seconds

輸出點位址

控制板位址 0

實體輸出點 1

模式　下拉選單選擇可用作動模式。有2種模式可用，簡述於後。

＊門開啓時復歸 - 當門位狀態由關轉爲開時，此Relay將會復歸。

＊門關閉時復歸 - 當門位狀態由開轉爲關或達到最大作動時間，此Relay將會復歸。

ADA／DDA　此處爲設定該Relay延長作動的時間。此選項需要該刷卡的持卡人有此ADA／DDA權限時才有效。(可設定範圍0~255秒)

拒絕計數

此頁面是用來設定某些拒絕進入事件的計數，當在時間內達到限制門檻時，系統將會發出額外的訊息來提示使用者作處理。

讀卡機屬性

一般 | 進階 | 資料介面 | 門位監視 | 按鈕開門 | Relay控制 | 拒絕計數 | 監控 | 歷史紀錄 | 稽核

☑ 啟用拒絕進入計數

☐ 在PIN模式下啟用"無此卡號"計數

☐ 在代碼模式下啟用"無此卡號"計數

☐ 在卡片及PIN碼模式下啟用"錯誤PIN輸入"計數

☐ 啟用生物辨識失敗計數

☑ 在卡片及PIN模式下，PIN不符時將此卡片停用

限制門檻

3

幾秒後重置計數器

15 seconds

啓用拒絕進入計數　勾選以啓用此功能。

限制門檻　下拉選單選擇發出提示訊息前的錯誤次數。

幾秒後重置計數器　下拉選單選擇計數器作用時間。此計數器於第一次錯誤開始計時當到達重置時間或是到達限制門檻時此計數器將重置。

監控

此頁面允許管理員或使用者來定義此讀卡機之事件通知路徑，“事件”一詞在此處是用以取代”警報”，因爲有些事件並不屬於警報。例如:隔離、故障、安全或刷卡紀錄。

讀卡機屬性
一般 | 進階 | 資料介面 | 門位監視 | 按鈕開門 | Relay控制 | 拒絕計數 | 監控 | 歷史紀錄 | 稽核
事件傳遞
事件傳遞路徑
與SPM相同
第一優先性
0
啟用站台視圖
裝置類型
Door All
使用此篩選器
新篩選器
與此攝影機相關聯
無
需要做確認
啟用音效

事件傳遞路徑　下拉選單選擇此讀卡機所用之傳遞路徑。

主要優先性　設定此讀卡機的事件優先性。可用値範圍爲 0~99，0 爲最高優先性。

裝置類型　下拉選單可選擇由使用者定義之裝置類型。裝置類型可以是爲此裝置特製或是多種設備共用同一種裝置類型。

使用此篩選器　此選項可控制使用者在即時事件中可看到之訊息。如果選擇“無”所有的訊息都會傳達給使用者(Client)看見，如選定其他篩選器，只有所選擇的訊息會傳達給 Client，無論是選擇何種篩選器，所有的訊息都會儲存在資料庫中。

與此攝影機相關聯　選擇此讀卡機與其連動之攝影機。此讀卡機產生之事件可傳送至 Eclipse NVR service 作連動控制。

需要作確認　此選項與篩選器有相關聯。當在篩選器中所選之訊息種類與此裝置相符合，且所選訊息也有啓用確認。在此情況下如有勾選此功能，需作確認之訊息將會在警報及即時訊息視窗中顯示。

啓用音效　所選之裝置類型如有設定警報音效，勾選此功能可在當有警報時播放音效。

歷史紀錄

此頁面可用來搜尋此讀卡機的最近 100 筆訊息。

讀卡機屬性

一般 | 進階 | 資料介面 | 門位監視 | 按鈕開門 | Relay控制 | 拒絕計數 | 監控 | 歷史紀錄 | 稽核

系統訊息種類

所有系統訊息 ▾　　搜尋

拖曳欄位置至此作分類排序.

記錄時間(伺服器)	記錄時間(SPM)	Gateway	SPM	位置	訊息	細節	卡號
2007/12/31 17:59:01	2007/12/31 17:59:00	test	Test SPM	R0001 Reader...	讀卡機門位偵測 - 強制開啓		0
2007/12/31 17:58:10	2007/12/31 17:58:09	test	Test SPM	R0001 Reader...	遠端暫時解鎖, 未使用		0
2007/12/31 14:53:29	2007/12/31 14:53:29	test	Test SPM	R0001 Reader...	讀卡機模式改變 - 只使用卡片		0
2007/12/31 14:53:00	2007/12/31 14:52:59	test	Test SPM	R0001 Reader...	讀卡機模式改變 - 解鎖		0
2007/12/31 14:52:28	2007/12/31 14:52:28	test	Test SPM	R0001 Reader...	讀卡機門位偵測 - 門已關上		0
2007/12/31 14:51:56	2007/12/31 14:51:56	test	Test SPM	R0001 Reader...	隔離 - 卡機強制開啓		0
2007/12/31 14:51:22	2007/12/31 14:51:22	test	Test SPM	R0001 Reader...	遠端暫時解鎖, 未使用		0
2007/12/31 12:49:01	2007/12/31 12:49:01	test	Test SPM	R0001 Reader...	讀卡機門位偵測 - 門已關上		0
2007/12/31 12:49:00	2007/12/31 12:49:00	test	Test SPM	R0001 Reader...	讀卡機門位偵測 - 強制開啓		0
2007/12/31 12:48:54	2007/12/31 12:48:54	test	Test SPM	R0001 Reader...	讀卡機門位偵測 - 門已關上		0
2007/12/31 12:12:26	2007/12/31 12:12:26	test	Test SPM	R0001 Reader...	允許通行	Hung Mad	499

系統訊息種類　下拉選單可選擇想搜尋的訊息種類。

搜尋　點選此按鈕後執行搜尋

稽核

此頁面是用來查詢使用者(操作員)對此讀卡機所作過的設定值變更紀錄。

讀卡機屬性

一般 | 進階 | 資料介面 | 門位監視 | 按鈕開門 | Relay控制 | 拒絕計數 | 監控 | 歷史紀錄 | 稽核

搜尋

拖曳欄位置至此作分類排序.

記錄時間(伺服器)	使用者名稱	指令類型	細節
⊟ 2007/7/30 15:43:45	admin	設定值變更	

內容	舊數值	新數值
FilterID	708ab150-cd5e-478f-a3fb-30809ea8c655	33a83995-ffaf-4fa5-9083-deb1563868a6
DeviceTypeID		Door All

記錄時間(伺服器)	使用者名稱	指令類型	細節
⊟ 2007/7/24 12:52:55	admin	設定值變更	

內容	舊數值	新數值
DoorContact_Debounce	5	3
Stike_MinTime	3	10
Stike_MaxTime	7	12
DoorContact_HoldTime	5	1

記錄時間(伺服器)	使用者名稱	指令類型	細節
⊞ 2007/7/19 16:55:20	admin	設定值變更	
⊞ 2007/7/13 11:50:35	admin	設定值變更	
⊞ 2007/7/10 15:24:35	admin	覆寫	只使用卡片

輸入點組態設定

本系統中所有控制板上的輸入點除了破壞警報及電源失敗外，都可作爲監視點使用。實際使用上可接受任何的乾接點訊號。監視點狀態的改變可用來觸發連動控制，或是需經操作員確認或只是回傳狀態。

一般

敘述　此欄位允許使用者變更此輸入點的名稱。最多 50 個字元(25 個中文字)。

線路監視　下拉選單選擇此輸入點的線路形式。本系統有可對輸入點作監控的功能。每一個輸入點皆有4種預設的型式，4種預設型式簡述如後。

　＊未管控，常閉 - 閉迴路爲未作動，開回路爲作動。

　＊未管控，常開 - 開迴路爲未作動，閉回路爲作動。

　＊監視，1K未啓動，2K啓動 - 電阻值爲1KΩ爲未作動，電阻值爲2KΩ爲作動。

　＊監視，2K未啓動，1K啓動 - 電阻值爲2KΩ爲未作動，電阻值爲1KΩ爲作動。

消除震動　下拉選單選擇判定線路狀態改變(開迴路變閉迴路或閉迴路變開迴路)前的掃描次數(0~15scans)，此功能可減少誤判情形發生。

維持時間　下拉選單選擇再次判定線路狀態前的時間(0~15秒)，預設值爲0。

閂閂模式　下拉選單選擇監視點回報狀態改變的型態

* 無延遲
* 非閂閂模式
* 閂閂模式

進入延遲　此處可設定在非閂閂模式或閂閂模式下延遲發報的時間。最大值可為 18時 12分 16秒。

離開延遲　此處可設定在非閂閂模式或閂閂模式下延遲發報的時間。最大值可為 18時 12分 16秒。

事件紀錄方式　下拉選單選擇記錄模式，此選項可改變監視點隔離時狀態改變的回報方式。

＊記錄所有改變 - 所有的訊息都會回報，包括“隔離 - 作動”，“隔離 - 未作動”。

＊不記錄隔離改變 - 當隔離時，第一筆隔離訊息會回報，但隔離中的狀態改變則不回報。此為建議之預設值。

＊不記錄隔離及錯誤的改變 - 此選項與不記錄隔離改變相同，但連同錯誤狀態也不回報。

進階

此進階頁面用來重新定義輸入點的功能，舉例來說，在主/副讀卡機模式下，副卡機的閂位點及開閂按鈕點可新分配為一般監視點來使用。

輸入點屬性

一般 | 進階 | 監控 | 歷史紀錄 | 稽核

輸入點種類

- 停用 (未分配)
- 一般監視點
- 讀卡機閂位偵測
  無
- 讀卡機開閂按鈕 1
  無
- 讀卡機開閂按鈕 2
  無

停用　此項將會停止回報此輸入點的所有狀態改變。

一般監視點　此選項將此輸入點視為一般的輸入點。

讀卡機門位偵測　此選項將此輸入點設定爲同一控制板中讀卡機的門位偵測點。

讀卡機開門按鈕 1　此選項將此輸入點設定爲同一控制板中讀卡機的開門按鈕偵測點。

讀卡機開門按鈕 2　此選項將此輸入點設定爲同一控制板中讀卡機的輔助開門按鈕偵測點。

監控

此頁面允許管理員或使用者來定義此輸入點之事件通知路徑，“事件”一詞在此處是用以取代“警報”，因爲有些事件並不屬於警報。例如：隔離、故障、安全。

事件傳遞路徑　下拉選單選擇此輸入點所用之傳遞路徑。

主要優先性　設定此輸入點的事件優先性。可用值範圍爲 0~99，0 爲最高優先性。

裝置類型　下拉選單可選擇由使用者定義之裝置類型。裝置類型可以是爲此裝置特製或是多種設備共用同一種裝置類型。

使用此篩選器　此選項可控制使用者在即時事件中可看到之訊息。如果選擇“無”所有的訊息都會傳達給使用者(Client)看見，如選定其他篩選器，只有所選擇的訊息會傳達給 Client，無論是選擇何種篩選器，所有的訊息都會儲存在資料庫中。

與此攝影機相關聯　選擇此讀卡機與其連動之攝影機。此讀卡機產生之事件可傳送至 Eclipse NVR service 作連動控制。

需要作確認　此選項與篩選器有相關聯。當在篩選器中所選之訊息種類與此裝置相符合，且所選訊息也有啓用確認。在此情況下如有勾選此功能，需作確認之訊息將會在警報及即時訊息視窗中顯示。

啓用音效　所選之裝置類型如有設定警報音效，勾選此功能可在當有警報時播放音效。

歷史紀錄

此頁面可用來搜尋此輸入點的最近 100 筆訊息。

輸入點屬性

一般 | 進階 | 監控 | 歷史紀錄 | 稽核

系統訊息種類

所有系統訊息　[搜尋]

拖曳欄位置至此作分類排序

記錄時間(伺服器)	記錄時間(SPM)	Gateway	SPM	位置	訊息	細節
2007/11/26 18:57:44	2007/11/26 18:57:43	test	Test SPM	Input 0.5 Reader 0.1 EP	監視點 - 警報	
2007/11/26 18:41:02	2007/11/26 18:41:00	test	Test SPM	Input 0.5 Reader 0.1 EP	監視點 - 安全	
2007/11/26 18:40:59	2007/11/26 18:40:58	test	Test SPM	Input 0.5 Reader 0.1 EP	監視點 - 警報	
2007/11/26 18:40:59	2007/11/26 18:40:58	test	Test SPM	Input 0.5 Reader 0.1 EP	監視點 - 安全	
2007/11/26 18:40:57	2007/11/26 18:40:56	test	Test SPM	Input 0.5 Reader 0.1 EP	監視點 - 警報	
2007/11/26 18:40:57	2007/11/26 18:40:56	test	Test SPM	Input 0.5 Reader 0.1 EP	監視點 - 安全	
2007/11/26 18:40:53	2007/11/26 18:40:52	test	Test SPM	Input 0.5 Reader 0.1 EP	監視點 - 警報	
2007/11/26 18:40:53	2007/11/26 18:40:51	test	Test SPM	Input 0.5 Reader 0.1 EP	監視點 - 安全	
2007/11/26 18:40:50	2007/11/26 18:40:49	test	Test SPM	Input 0.5 Reader 0.1 EP	監視點 - 警報	
2007/11/26 18:40:50	2007/11/26 18:40:48	test	Test SPM	Input 0.5 Reader 0.1 EP	監視點 - 安全	

系統訊息種類　下拉選單可選擇想搜尋的訊息種類。

搜尋　點選此按鈕後執行搜尋。

稽核

此頁面是用來查詢使用者(操作員)對此輸入點所作過的設定值變更紀錄。

輸入點屬性

一般 | 進階 | 監控 | 歷史紀錄 | 稽核

[搜尋]

拖曳欄位置至此作分類排序

記錄時間(伺服器)	使用者名稱	指令類型	細節
2007/7/30 15:24:25	admin	設定值變更	

內容	舊數值	新數值
RequiresAck	False	True
DeviceTypeID		EP
FilterID		67c7ce88-ff36-4ca2-b156-5dacc8810256
EnableSounds	False	True

記錄時間(伺服器)	使用者名稱	指令類型	細節
2007/6/22 11:14:57	admin	設定值變更	

內容	舊數值	新數值
Description	1F 備餐室 EP Input 8.5	1F A梯出口 EP Input 8.5

記錄時間(伺服器)	使用者名稱	指令類型	細節
2007/6/8 15:41:49	admin	設定值變更	

內容	舊數值	新數值
Description	Input 8.5	1F 備餐室 EP Input 8.5

輸出點組態設定

輸出點在此系統中即為Relay輸出。未分配給讀卡機解鎖輸出的控制點即為輸出點。輸出點可應用在許多功能，如作為開關訊號 ，電梯控制等。

一般

輸出點內容

一般 進階 監控 歷史紀錄 稽核

敘述

Output 0.3

內容

預設脈衝時間

0 時 0 分 4 秒

模式

激磁為作動

輸出點位置

輸出點種類 控制點

控制點 2

控制板位址 0

實體輸入點 3

敘述　此欄位允許使用者變更此輸出點的名稱。最多50個字元(25個中文字)。

預設脈衝時間　此處欄位可設定當系統送出脈衝指令時的作動時間，脈衝指令可由右鍵點選輸出點後選擇。可設定之最大值為 18時 12分 16秒。

模式　此處選項是用來設定此控制點的作動模式。在激磁為作動模式下，此控制點在未作動為常閉-閉(NC-C)，在解除激磁為作動模式下，此控制點在未作動為常開-閉(NO-C)

進階

此進階頁面用來重新定義輸出點的功能，舉例來說，在主/副讀卡機模式下，副卡機的解鎖輸出點可新分配爲一般控制點來使用。

輸出點內容
一般 | 進階 | 監控 | 歷史紀錄 | 稽核
輸出點種類
停用（未分配）
一般控制點
讀卡機Relay輸出
None

停用　此項將會停止回報此輸出點的所有狀態改變。

一般控制點　此選項將此輸出點視爲一般的輸出點。

讀卡機Relay輸出　此選項將此輸出點設定爲同一控制板中讀卡機的解鎖輸出點。

監控

輸出點內容
一般 | 進階 | 監控 | 歷史紀錄 | 稽核
事件傳遞
事件傳遞路徑
與SPM相同
第一優先性
逾時
第二優先性
啟用站台視圖
裝置類型
使用此篩選器
與SPM相同

事件傳遞路徑　下拉選單選擇此輸出點所用之傳遞路徑。

歷史紀錄

此頁面可用來搜尋此輸出點的最近 100 筆訊息。

輸入點屬性

一般 | 進階 | 監控 | 歷史紀錄 | 稽核

系統訊息種類

所有系統訊息 　　搜尋

拖曳欄位置至此作分類排序.

記錄時間(伺服器)	記錄時間(SPM)	Gateway	SPM	位置	訊息	細節
2007/11/9 14:38:02	2007/11/9 14:38:01	test	Test SPM	Input 0.7	監視點 - 安全	
2007/11/5 17:25:42	2007/11/5 17:25:34	test	Test SPM	Input 0.7	監視點 - 安全	
2007/11/5 17:25:35	2007/11/5 17:25:34	test	Test SPM	Input 0.7	監視點 - 安全	
2007/10/31 15:30:16	2007/10/31 15:30:09	test	Test SPM	Input 0.7	監視點 - 安全	
2007/10/31 15:30:09	2007/10/31 15:30:09	test	Test SPM	Input 0.7	監視點 - 安全	
2007/10/29 12:29:55	2007/10/29 12:29:54	test	Test SPM	Input 0.7	監視點 - 安全	
2007/10/29 10:00:36	2007/10/29 10:00:30	test	Test SPM	Input 0.7	監視點 - 安全	
2007/10/25 10:41:27	2007/10/25 10:41:20	test	Test SPM	Input 0.7	監視點 - 安全	
2007/10/25 10:41:20	2007/10/25 10:41:20	test	Test SPM	Input 0.7	監視點 - 安全	
2007/10/25 10:36:42	2007/10/25 10:36:35	test	Test SPM	Input 0.7	監視點 - 安全	
2007/10/25 10:36:35	2007/10/25 10:36:35	test	Test SPM	Input 0.7	監視點 - 安全	
2007/10/25 10:17:03	2007/10/25 10:16:55	test	Test SPM	Input 0.7	監視點 - 安全	

系統訊息種類　下拉選單可選擇想搜尋的訊息種類。

搜尋　點選此按鈕後執行搜尋。

稽核

此頁面是用來查詢使用者(操作員)對此輸出點所作過的設定值變更紀錄。

輸出點內容

一般 | 進階 | 監控 | 歷史紀錄 | 稽核

搜尋

拖曳欄位置至此作分類排序.

記錄時間(伺服器)	使用者名稱	指令類型	細節
2007/10/2 17:20:22	admin	設定值變更	

內容	舊數值	新數值
PulseTime	5	4

記錄時間(伺服器)	使用者名稱	指令類型	細節
2007/10/2 17:20:19	admin	設定值變更	

內容	舊數值	新數值
DriveMode	解除激磁為啓動	激磁為作動

記錄時間(伺服器)	使用者名稱	指令類型	細節
2007/10/2 17:20:17	admin	設定值變更	

內容	舊數值	新數值
DriveMode	激磁為作動	解除激磁為啓動

記錄時間(伺服器)	使用者名稱	指令類型	細節
2007/10/2 17:20:15	admin	設定值變更	

自訂 EOL

此頁面是用來增加、編輯或刪除掃描表的屬性。此掃描表是用於下列功能頁面的迴路型式中的線路監視。

讀卡機門位監視頁面、讀卡機開門按鈕頁面、輸入點一般頁面。

自訂 EOL
一般
增加掃描表
匯入
Custom EOL
屬性
基本 進階
敘述
Custom EOL
Inactive 條件
最小值 200
最大值 250
Active 條件
最小值 950
最大值 1050

每一個 SPM 最多可有 4 個掃描表，這些掃描表無法跨 SPM 使用。

增加掃描表 點選後新增一個掃描表。

敘述 此欄位允許使用者變更此掃描表的名稱。最多 50 個字元(25 個中文字)。

Inactive 條件 輸入線路狀態爲安全的電阻值範圍。最小值必須大於 100 歐姆。

Active 條件 輸入線路狀態爲警報的電阻值範圍。最大值不能大於 25K 歐姆。

通訊

概要

In any distributed architecture, communications between different components of thesystem are critical to the reliability and scalability of the system. The communications infrastructure must also be robust and able to handle different payloads easily. The communication components of the Eclipse™700 system achieve that goal by providing a generic communications framework between the Application Server, Clients, and Gateways. In addition, the Gateways provide a reliable infrastructure to the field hardware which has its own robust communications.

Application Server 與 Clients 及 Gateways 之間的通訊

TCP socket server that accepts connections from both the gateways and clients and provides a generic transport mechanism for any .NET class object, collection of those objects, or file.

Both Clients and Gateways can be configured for DHCP as the Application Server tracks each incoming connection by its current IP Address. Note that Clients send commands to the Gateways though the Application Server. Clients and Gateways do not communicate directly with each other, as all communications must go through the Application Server. The default TCP port that a client uses is port 11000.

The default can be changed via XML configuration files, but must be done so at both the Application Server and the Client.

注意事項： 安裝**Application Server** 的電腦需使用固定**IP**，假如**SQL Server** 爲另外一台電腦，該電腦也需使用固定**IP**。

Gateway 與 SPM 的通訊

當 Gateway Service 啓動時，Gateway Service 會向Application Server 索取 SPM 清單，通訊參數，及持卡人。Gateway Service 依照通訊參數去開啓序列埠，數據機，或 TCP socket，來與 SPM 連接通訊。
每一個Gateway的通訊通道的設定值如下圖所示都在**通訊通道**目錄中。

以Gateway wizard 新增 Gateway 後，某些內容會預先建立好，如序列埠（含USB to Serial converters）或數據機。這些設定可在任何時候更改，但是變更後必須重新啓動Gateway Service。

點選**新增通訊埠**按鈕可以增加一個名爲“新通訊埠”的通訊埠。

勾選**啓用**可啓用該通訊通道，

敘述　此欄位可變更此通訊通道的名稱，最多50個字元(25個中文字)。此敘述將會顯示於SPM設定中通訊通道下拉式選單中。

通訊種類　此選項設定該通訊通道的類型。不同的選項將會啓用或停用其他的通訊參數　。

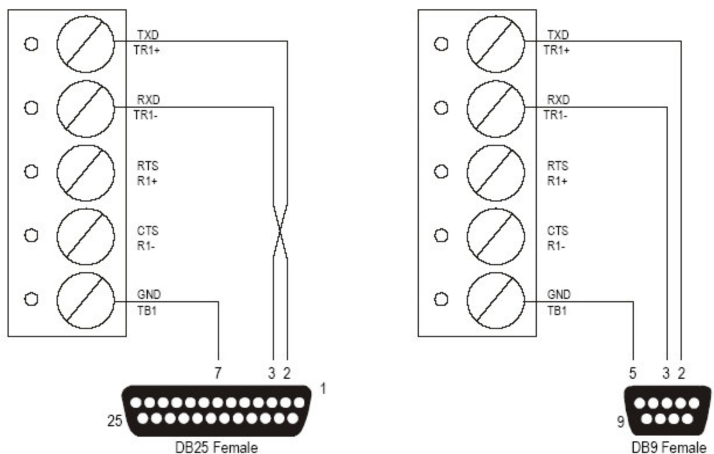
序列埠　此選項列出可用的序列埠（1~255）。但這並不代表這些都是可用的，Gateway 會依照設定的值去嘗試與SPM通訊。
Buad 速率　此選項爲 Gateway 與 SPM 間的通訊速度，與 SPM 至控制板間的通訊速度無相關性。
SPM 離線　此處設定以毫秒表示，Gateway 於多久時間後認定SPM爲離線。只有序列埠及數據機有此功能。

CTS/RTC 控制　此處設定序列埠是否使用硬體交握。通常設定爲RTS ON 效果最佳。

網路逾時　此處設定以秒表示，Gateway 於多久時間後認定SPM爲離線。可依據網路資料的通訊狀況作設定，一般使用預設值即可。

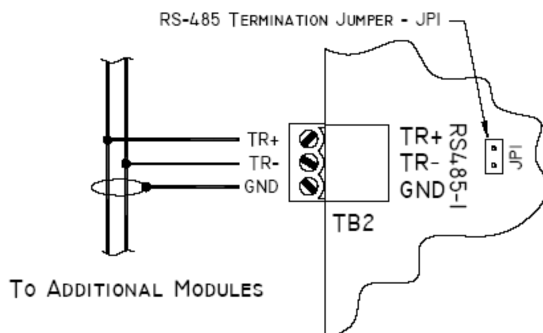
數據機　下拉選單將列出該 Gateway 已安裝的數據機。

下圖爲Gateway與SPM以序列埠通訊時的接線示意圖。(此處接線法會因實際所使用之通訊擴充卡而有所不同)

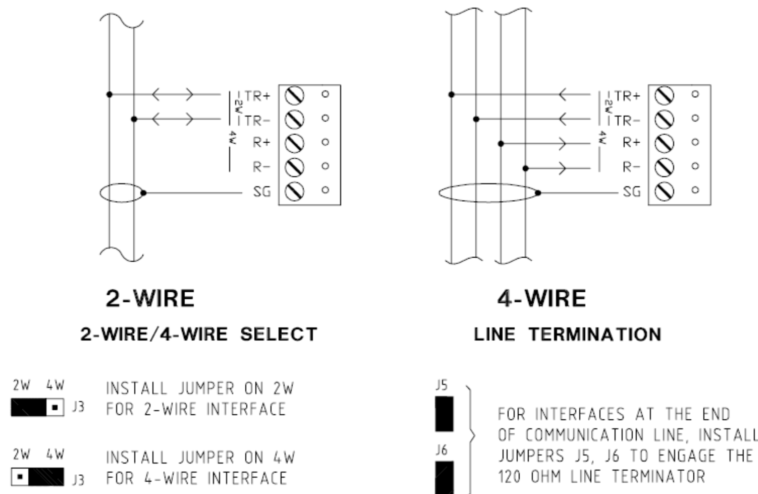


SPM 與控制板的通訊

SPM 與控制板之間是以 RS-485 做通訊。AP 系列只支援 2-wire 的 RS-485，而 SCP 系列支援 2-wire 及 4-wire 的 RS-485。兩者間通訊速度(baud rate)有 2400,9600,19200 或 38400 bps 的選擇，預設值爲 38400。SPM 與控制板之間的最大傳輸距離可達 1200m(4000ft)。由於 RS-485 是使用實體線路通訊，所以在線路兩端點的設備需使用終端電阻。



上圖爲 AP 系列控制板的接線圖，SCP 系列控制板的接線法相當類似相鄰的控制板的 TR+互相串接，TR-的接法相同。下圖爲示意圖。

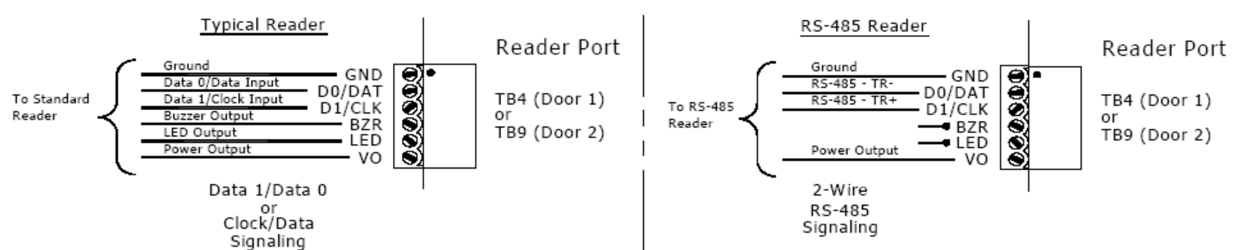


注意事項：

IMPORTANT NOTE: The shield drain wire should only be connected to one of the panels to the signal ground (SG) terminal. The shield drain wires should be connected to each other but not terminated to signal ground. For best results, the panel closest to earth ground reference should be the one with the signal ground termination.

DDM與讀卡機的通訊

控制板上的讀卡機通訊界面爲 TTL 介面，最大傳輸距離爲 150 m (500 ft)。AP 與 SCP 系列皆支援 Data/Clock 及 Data 1/Data 0。AP 系列也支援 RS-485 接線。示意圖如下。



Lantronix Co-Box Micro

某些型號的 SPM 支援透過 Lantronix Co-Box Micro 擴充板橋接後轉換爲乙太網路。
要設定此Lantronix Co-Box Micro必須先安裝最新版的Device Installer，該程式內附安裝光碟中的Utilities目錄下或可由 www.lantronix.com/support 下載。當Device Installer安裝好後你就可透過Device Installer搜尋以連接至你工作中區網上的Lantronix裝置。使用此程式去設定Lantronix Co-Box Micro的IP位址，IP位址設定完成後使用WEB CONFIGURATION連接至該Lantronix Co-Box Micro並依照下圖設定。

Selected Channel : 1

Setting	Value
Serial Port Settings	
Serial Protocol	RS232
Speed	38400
Character Size	8
Parity	None
Stopbit	1
Flow Control	CTS/RTS (Hardware)
Connect Mode Settings	
UDP Datagram Mode	Disable
UDP Datagram Type	
	Change Address Table
Incoming Connection	Accept unconditional
Response	Nothing (quiet)
Startup	No Active Connection Startup
Dedicated Connection	
Remote IP Address	
Remote Port	
Local Port	3001
Flush Mode Input Buffer (Line to Network)	
On Active Connection	Disable
On Passive Connection	Disable
At Time To Disconnect	Disable

Flush Mode Input Buffer (Network to Line)

On Active Connection	Disable
On Passive Connection	Disable
At Time To Disconnect	Disable

Packing Algorithm

Packing Algorithm	Disable
Idle Time	Force Transmit 12ms
Trailing Characters	None
Send Immediate After Sendchars	Disable
Sendchar Define 2-Byte Sequence	Disable
Send Character 01	00
Send Character 02	00

Additional Settings

Disconnect Mode	Ignore DTR
Check for CTRL-D To Disconnect	Disable
Port Password	Disable
Telnet Mode	Disable
Inactivity Timeout	Enable
Inactivity Timer	0:0
Port Password	
At Time To Disconnect	Disable

使用者

概要

此處的“使用者”指的是登入到 Application Server 的 Client。本系統支援使用者權限功能，不同權限的使用者能夠登入系統後能夠看見的硬體與訊息以及可做的設定皆不相同。本系統可支援無限多的帳號群組與使用者，但是同一時內可登入的使用者數量由所購買的 Application Server license 決定。

新增登入使用者

只有系統管理員有權限新增使用者或變更使用者的帳號群組。

要新增使用者帳號至現有的帳號群組時，先點選帳號群組，填入**使用者名稱**及**密碼**後選擇**帳號類型**，可選的帳號類型如下：

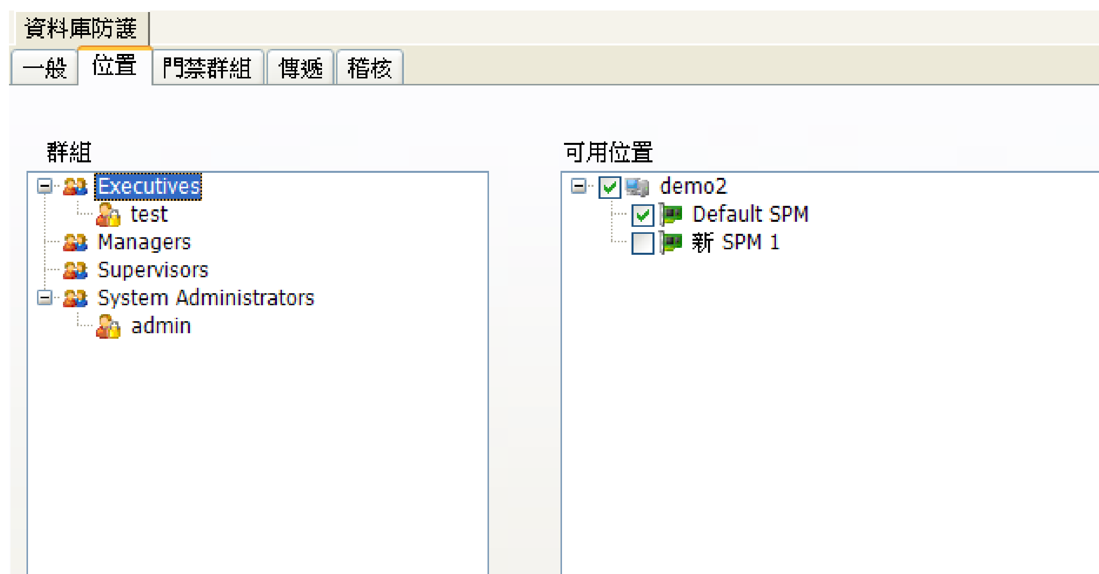
- 系統管理員
- Gateway 管理員
- 控制器管理者
- 經理人
- 操作員
- 瀏覽員
- Disabled

點擊新增登入者即可將新使用者新增至所選帳號群組。

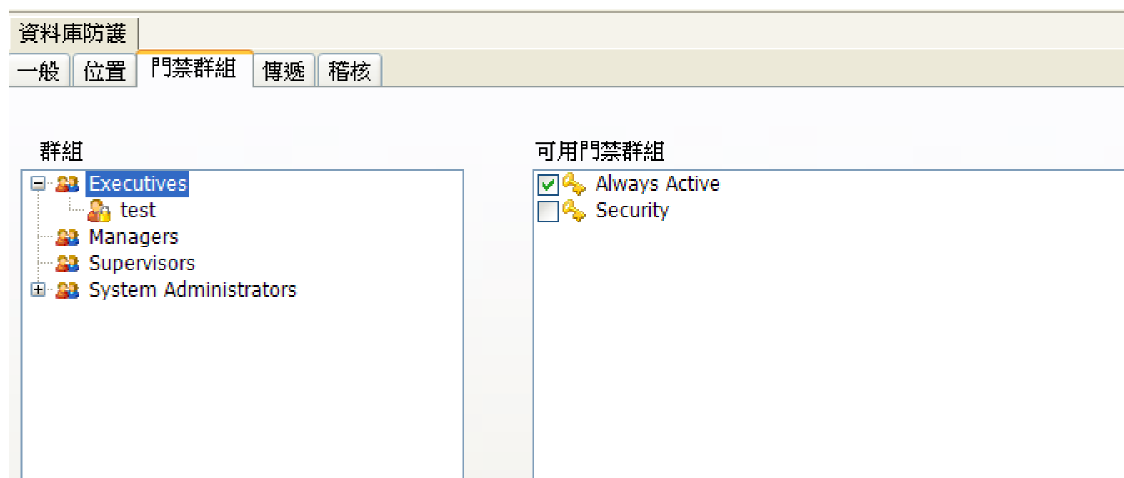
※由於本系統具備稽核的功能，所以只要使用者曾經登入過該帳號就無法刪除，如該帳號以不使用，可將該帳號的帳號類型選為“Disabled”即可。

資料庫防護

本系統使用資料庫權限及帳號類型的組合權限來控制該登入使用者能夠得到那些資訊。此資料庫權限連結到該使用者所屬的帳號群組，但是此使用者的帳號群組與 SQL 中的使用者資料表並無關聯，只是讓 Application Server 用來判定哪些訊息該回傳給該使用者。**位置**頁面是用來控制該使用者群組可以掌控那些設備。該群組下的使用者登入後將無法在 GUI 中看見未選取的設備。以下例來說，“test”登入後將完全看不見第二個 SPM 下任何硬體設備，也不會接收到該 SPM 所屬硬體所產生的一切訊息。



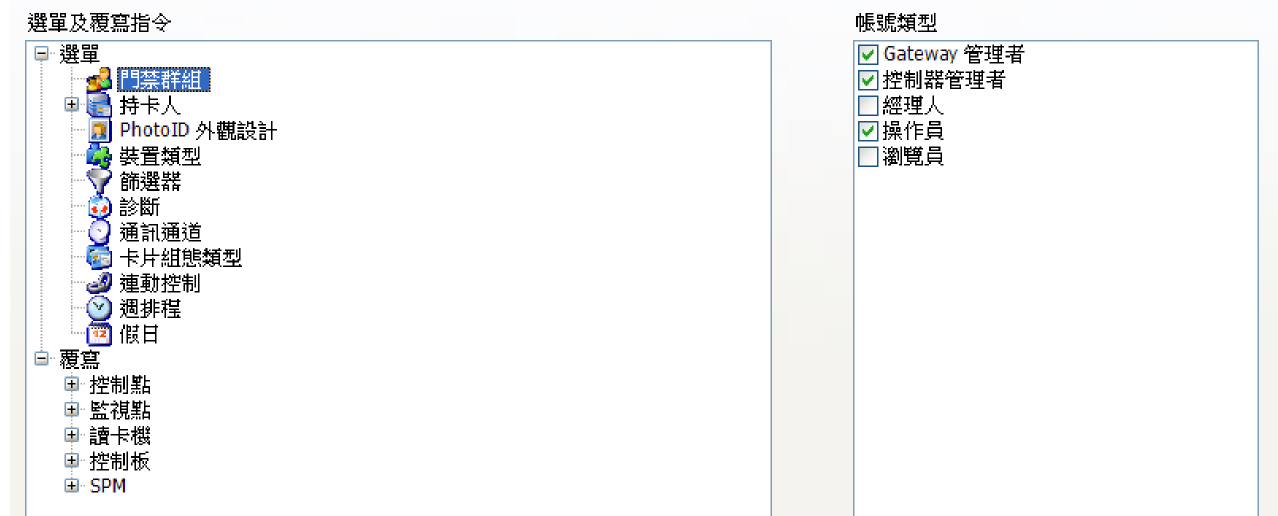
資料庫防護的第二部分為**門禁群組**，此頁面決定該帳號群組內的使用可以看的到那些持卡人。以下例來說，假設有 10 個姓“陳”的持卡人（陳 A～陳 J），其中 3 個（陳 A～陳 C）屬於“Always Active”，其他 7 個屬於“Security”，當“test”登入後在持卡人設定頁面下去搜尋姓“陳”的持卡人時，他只能夠找到那 3 個持卡人（陳 A～陳 C）。



只有系統管理員（System administrator）有權限修改此處的設定，變更設定後權限有變更的使用者需重新登入。

程式安全性

此處程式安全性是依據**帳號類型**來決定那些頁面或功能不該給使用者看見或使用。只有系統管理員可對此頁面做變更修改。

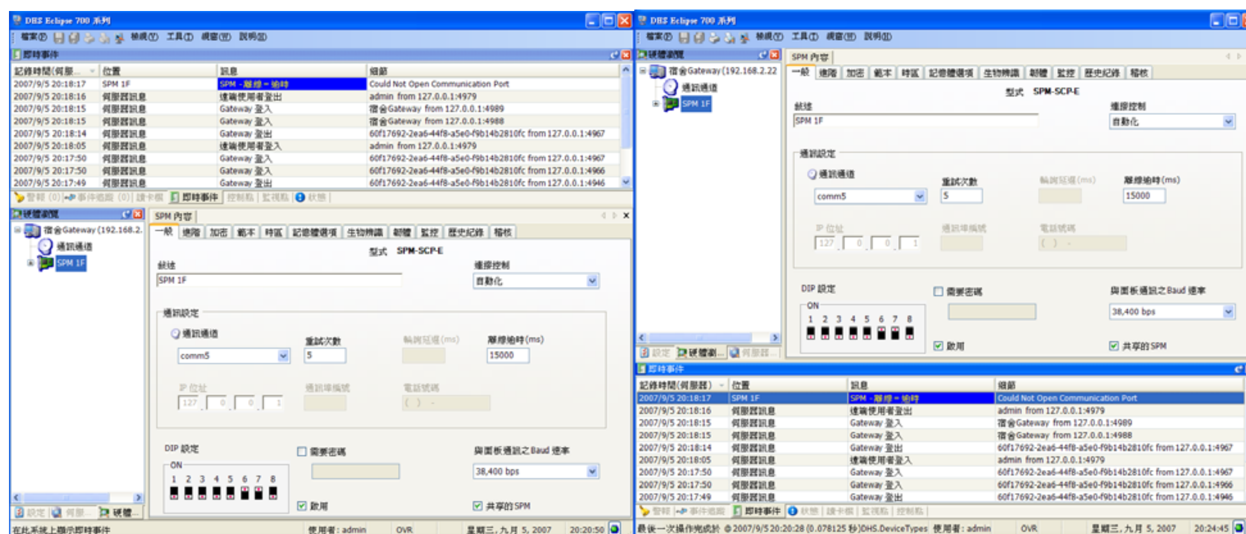


要變更此處的設定時，先在畫面左方選擇要變更的選單或功能，在畫面右方選取或取消帳號類型的權限。設定完成後，記得儲存設定。受變更影響的使用者需重新登入。

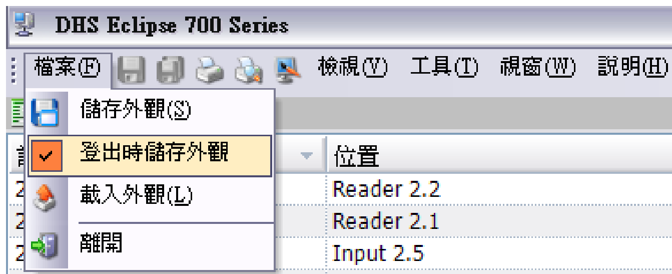
使用者外觀

本圖形化使用者介面(Graphic User Interface/GUI)的外觀設定預設為載入使用者最後儲存的外觀設定。此處並不是指 Windows 的登入。每個使用者的外觀設定都儲存在 Eclipse 700/MenuLayouts 目錄下，工具列的位置，自動隱藏及各頁面的位置及排序皆以使用者的帳號為檔名儲存在該目錄下。此設定檔僅針對該使用者於該台電腦登入系統時使用，亦即同一個使用者於不同的電腦登入時會有不同的外觀設定。

下圖為二種透過滑鼠的拖拉放編排出的不同的外觀編列方式。



假如使用者不想儲存目前的外觀設，請於工具列的檔案下拉選單取消選取登出時儲存外觀(如下圖)。預設為有勾選。

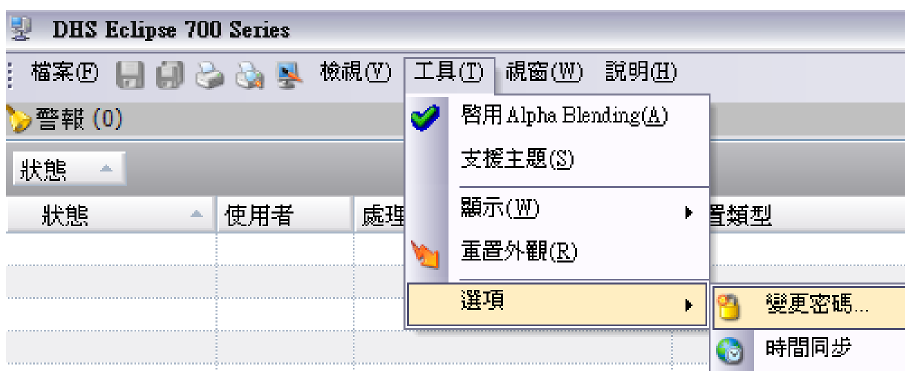


如果要將外觀回覆至初始設定值，請於工具列的工具下拉選單選取重置外觀。如下圖。



變更密碼

本軟體允許使用者於 GUI 中自行變更登入密碼而不需透過系統管理員。此功能對所有的 Clients 皆適用。方法如下圖：工具列｜工具｜選項｜變更密碼。



點選後跳出以下視窗。請先輸入目前使用中的密碼於舊密碼欄位中以獲得修改密碼的授權，當舊密碼被系統接受後新密碼及確認新密碼欄位將可填入新密碼。

變更admin的密碼

舊密碼

新密碼

確認新密碼

確定 取消

新密碼及確認新密碼欄位的輸入資訊需一致且必須與舊密碼不同。

點選確定即可更新密碼，當下一次登入時請使用新密碼登入。

檢視已登入的Clients

此頁面只有帳號類型爲系統管理員的使用者可以看的到，此頁面可查詢目前連接至系統的使用者的數量及 IP 位址。

點選查詢 Client 數即可更新目前的 Client 連接數。

伺服器瀏覽

已登入的Client
資料庫設定
診斷
Gateways
介面

設定 | 硬體瀏覽 | 伺服器瀏覽

已登入的Client

一般

查詢Client數

拖曳欄位置至此作分類排序.

種類	名稱	IP 位址
Client	admin	127.0.0.1:1994
Gateway	test	127.0.0.1:2052

門禁控制

概要

門禁控制簡單的來說就是允許特定的人在特定時間內可以進入特定區域內。一般來說，門禁管理有分爲傳統式的鑰匙管理與電子設備的進出管制。雖然電子設備的管理方式所需的成本較高，但可提供更加安全的保全及更方便的進出紀錄管理。

電子化控制門禁系統管控人員或物品經由讀卡機、整合式鍵盤或生物辨識裝置的讀取資料後就可在預先規劃完善的區域內移動。電子化控制門禁設備有以下三項：

- 辨識裝置－感應卡或是個人辨識碼(PIN)。
- 讀取裝置－讀取卡片資訊或輸入 PIN，一般來說即爲讀卡機。
- 門禁控制器－此爲門禁控制的主體，在多門管制的環境下，接收到讀卡機資訊後，判定該持卡人是否有權限進入該特定的區域。

門禁控制系統用以判定人員是否有權限進出區域時，最主要是根據以下三種資訊：

- 他有什麼－人員是否持有實體門禁管制卡。
- 他知道什麼－人員是否擁有個人辨識碼(PIN)。
- 他是誰－人員經由生物辨識裝置掃描指紋、瞳孔或聲音。

經由結合以上任二條件可獲得高等級的安全等級，結合上述三種條件時人員辨識的安全等級將會非常高。

當此人員身份確認後，門禁系統將會由讀卡機排程及決定該人員是否能夠通行該區域。管理人員可通行區域及排程是一件簡單的事情，但是，隨著門扇及人員數量的增加，複雜度會越來越高。系統一開始的規劃建制顯得非常重要。

卡片格式

卡片格式是當持卡出示卡片給讀卡機讀取後系統判定該類型卡片是否能夠在該系統下使用。目前市面上最常用的卡片格式爲 Wiegand format 或 data1/data0 信號。 另一種格式類型爲 clock/data 格式，Eclipse 700 對以上二種格式皆有支援。

卡片組態類型

門禁控制 | Magstripe資料庫 | Wiegand 資料庫

新增啟用格式

Standard 26-bit
35 Bit HID Corporate 1000 (No Parity)
37-bit
Standard 26-bit
Standard 26-bit

內容

格式種類

Standard 26-bit

內碼

254

偏移

0

(Format #5) 1 0 26 13 0 13 13 8 1 16 9 0 0

點擊 **新增啓用格式** 按鈕可新增一種格式至此 SPM ，新增後右方格式種類欄位會顯示“格式未選取” ，下拉選單可選擇要使用的格式。本系統下每一 SPM 最多可使用 8 種卡片格式。

內碼 此處爲該卡片唯一的值，介於（1~9999999），內碼符合的卡片才能使用。

偏移 此處爲一 9 位數整數值，通常爲 0，如有設定此數值，該格式的卡片經由讀取後將會自動加上此數值。當你擁有 2 組卡片，卡號的範圍皆爲 1～100，但是內碼不同，當你在其中一組卡片格式中填入**偏移碼**：1000，你將會得到一組可用卡號(1～100)，另一組卡號將會變爲(1001～1100)。這樣就能夠避免卡號重疊而無法使用的問題。有一點要注意的是，當新增卡片給持卡人時，**要填入偏移過的卡號**。

注意事項：只有系統管理員可對此頁面作修改

Magstrip 資料庫

此頁面顯示系統預設的 Magstrip 格式。**如無特殊需求，此頁面之設定請勿修改。**

卡片組態類型

門禁控制 | Magstripe資料庫 | Wiegand 資料庫

新增格式

Driver's License

敍述

Driver's License

數字格式 | 選項

最小值 1
最大值 35
內碼長度 8
內碼開始數值 0
卡號長度 8
卡號起始字元 6
發行碼長度 0
發佈碼開始數值 0

Wiegand 資料庫

此頁面顯示系統預設的 Weigand 格式，市面上大部分的格式皆有內建。**如無特殊需求，此頁面之設定請勿修改。**

卡片組態類型

門禁控制 | Magstripe資料庫 | Wiegand 資料庫

新增格式

Standard 26-bit
37 bit HID (35 bit cardnumber)
37-bit
AWID 40 Bit
40 bit AWID
26-bit with 24 bit cardnumber
HID 37-Bit
34 bit HID
Standard 26-bit
35 Bit HID Corporate 1000 (No Parity)
34 bit HID (No even Parity)
35 Bit HID Corporate 1000

敍述

Standard 26-bit

位元模式 | 選項

總位元數 26
內碼長度 8
偶同位元 13
內碼起始位元 1
偶同位元起始位元 0
卡號長度 16
奇同位元 13
卡號起始位元 9
奇同位元起始位元 13
發佈碼長度 0
發行碼起始位元 0

週排程

本系統的週排程用在門禁層級、連動控制及改變讀卡機、監視點及控制點的模式。本系統中每一個 SPM 最多能有 255 個週排程。

新增排程

點擊**新增排程**按鈕可增加排程至此 SPM。

敘述　此欄位允許使用者變更此排程的名稱。最多 50 個字元(25 個中文字)。

啓用　勾選此處可啓用此排程。

模式　此選項可設定此排程爲開、關或掃描。有間隔時間的排程才能使用掃描模式來判定。

新增間隔時間

要增加間隔時間至週排程時，先點選該排程後點擊**增加間隔時間**按鈕，點選新增後出現的間隔時間可顯示以下畫面。

開始時間及**結束時間**設定所選日子的的開始及結束時間。此處的時間是以 24 時制爲準。

門禁層級

點選欲增加門禁層級的 SPM 後點擊**新增門禁層級**按鈕，點選新增的門禁層級設定屬性。

敘述　此欄位允許使用者變更此門禁層級的名稱。最多 50 個字元(25 個中文字)。

讀卡機排程　選取門禁層級後下拉選單選取讀卡機及排程後，點擊**新增**按鈕即可將此讀卡機加入門禁層級中。

刪除　要刪除讀卡機排程或門禁層級時，在要刪除的物件上按右鍵就會出現刪除功能。

刪除門禁層級時，要先確認在任何一個門禁群組內皆沒有該門禁層級才可成功刪除。

門禁群組

當持卡人分配至門禁群組，該持卡人就擁有該門禁群組中門禁層級下之讀卡機的權限。每一門禁群組最多可由每一 SPM 分配 32 個門禁層級(此數目取決於 SPM 的記憶體組態設定頁面處所設定的值)。

點擊**新增群組**按鈕即可增加一個新門禁群組，點選該群組可顯示設定值。

敘述　此欄位允許使用者變更此門禁群組的名稱。最多 50 個字元(25 個中文字)。

增加門禁層級至門禁群組的方法如下：

點選一門禁群組後點選一個門禁層級後，點擊**新增至群組**按鈕即可。

刪除　要刪除門禁群組時，在要刪除的物件上按右鍵就會出現刪除功能。刪除前要先確認該門禁群組下已無持卡人才可成功刪除。

持卡人

持卡人頁面可用來新增、刪除或改變門禁群組及搜尋持卡人。

新增持卡人

Eclipse 700 使用範本來做爲持卡人的初始設定值，此範本可依需求作修改。

範本
Default
新增持卡人
搜尋準則
名
姓
卡號
門禁群組
搜尋
搜尋結果
顯示

選定範本後點擊**新增持卡人**按鈕後填入姓、名、門禁群組等 3 個必要欄位後點擊**儲存**按鈕即可增加一個持卡人。

現在可以分配卡片（卡號）給該持卡人了，填入**卡號**及選擇**狀態**後，點擊**新增卡片**按鈕擊卡將此卡號（卡片）分配給該持卡人。每一個持卡人並**不限定只能有一張卡號**。

搜尋持卡人

在**搜尋準則**下任何一個欄位填入欲搜尋的參數後點擊**搜尋**即可依搜尋條件搜尋持卡人。下拉**搜尋結果**選單即可顯示結果。

一般

此頁面爲持卡人的主要設定資訊，包含門禁群組、分配的卡片號碼、PIN 等。

姓　此處爲必要欄位，最多可填入 50 個字元(25 個中文字)。

名　此處爲必要欄位，最多可填入 50 個字元(25 個中文字)。

中間名　此欄位可爲任意字元，最多可填入 50 個字元(25 個中文字)。

永遠有效　當此處有勾選，SPM 將會忽略該持卡人的啓用日期及失效日的設定。

臨時　當有勾選此處時，下拉選單選擇該持卡人由啓用日期算起的有效日數。此時失效日將會被忽略。

啓用日期　此處爲設定該持卡人於何時可以開始使用他的卡片來進入門禁管制區域。

失效日　此處爲設定該持卡人於何時將無法使用他的卡片來進入門禁管制區域。

門禁群組　下拉選單選擇該持卡人所擁有的門禁權限。此爲必要欄位。

卡號　此欄位爲非必要欄位，卡號可接受範圍爲 1～281474976710654。卡號開頭不可爲 0。

狀態　下拉選擇卡片的使用狀態。在此處可設定該卡片為啓用或停用而不需要將卡號刪除。

PIN　此欄位爲非必要欄位，PIN 可接受範圍爲 0～999999999999999。此處之 PIN 開頭可爲 0，所以“001”與“1”爲不同的 2 個 PIN 碼。Note：此處不可與其他持卡人的 PIN 重複。

產生　點選此按鈕可隨機產生不重複的 PIN。

編輯失效原因

於持卡人一般頁面中卡片組態中欄位處點選[...]按鈕後即可開啓編輯失效原因，點選新增可新增加一個失效原因，於敘述欄位處填入說明。

NOTE: 此失效原因於本系統中僅作爲查詢的參數之一，對權限並無影響。

持卡人 失效原因
一般
新增
CONTRACT EXPIRED
DRUG TEST PENDING
FINGERPRINT PENDING
FIRED
屬性
敘述
CONTRACT EXPIRED

編輯卡片狀態

於持卡人一般頁面中的失效原因的狀態欄位處點選[...]按鈕後即可開啓編輯卡片狀態。點選新增可新增加一個卡片狀態，於敘述欄位處填入說明，並選擇是否將此卡片狀態設定爲啓動。

NOTE: 持卡人卡片的卡片是否可用即決定於該卡片的卡片狀態是否設定爲啓動。

持卡人 卡片狀態
一般
新增
Active
Inactive
Lost
Replacement
Stolen
屬性
敘述
Active
☑ 狀態為啟動

進階

此進階頁面可設定每一持卡人的其他附加選項。這些選項並不是必須的選項。

不受 APB 限制　勾選此處後該持卡人將不受 APB 規則，但前提是該持卡人要有該讀卡機的權限。

使用 ADA/DDA 時間　勾選此處可讓該持卡人擁有較長的開門時間及解鎖時間。此延長的時間需在各讀卡機“門位監視”及“RELAY 控制”處設定。

不需檢查 PIN　當讀卡機處於“卡片及 PIN 碼”模式下，該持卡人可不用輸入 PIN。

假期設定　啓用此功能後，當該持卡人處於假期時段時，該持卡人的所有卡片將會自動停用。

個人聯絡方式

此頁面可填入該持卡人的個人聯絡資訊及緊急聯絡人資訊。點擊[...]可新增或編輯所需名稱。

持卡人

一般 | 進階 | 個人聯絡方式 | 公司資訊 | 自訂 | Photo ID | 生物辨識 | 使用者群組 | 歷史紀錄 | 稽核

姓 Hung　名 C.H.　中間名

身分證統一編號

住家地址：住址、住家電話、手機號碼、城市、Email、縣市、郵遞區號

緊急聯絡人：聯絡人姓名、住家電話、稱謂、手機號碼、聯絡人姓名、住家電話、稱謂、手機號碼

公司資訊

此頁面可填入該持卡人的公司資訊。點擊[...]可新增或編輯所需名稱。

持卡人

一般 | 進階 | 個人聯絡方式 | 公司資訊 | 自訂 | Photo ID | 生物辨識 | 使用者群組 | 歷史紀錄 | 稽核

姓 Hung　名 C.H.　中間名

工作地址：住址、工作電話、分機、城市、Email、縣市、郵遞區號

到職日 2007/10/23

部門

位置

計費中心

自訂

此頁面可作爲其他資訊的擴充欄位。點擊工具列上設計模式按鈕後即可進入設計模式，之後，在要變更標題的“自訂”上點擊右鍵，即可編輯該名稱。　**P.S. 編輯完成後記得將設計模式取消。**



持卡人

一般 | 進階 | 個人聯絡方式 | 公司資訊 | 自訂 | Photo ID | 生物辨識 | 使用者群組 | 歷史紀錄 | 稽核

姓　名　中間名

Hung　C.H.

自訂　自訂　自訂

自訂　自訂　自訂

自訂　自訂　自訂

自訂　自訂　自訂

自訂　自訂　自訂

自訂　自訂　自訂

使用者群組

此處的設定值是提供給連動控制作爲判斷的依據，與門禁權限無任何關聯。點擊[...]可新增或編輯所需名稱。

持卡人

一般 | 進階 | 個人聯絡方式 | 公司資訊 | 自訂 | Photo ID | 生物辨識 | 使用者群組 | 歷史紀錄 | 稽核

姓: Hung　名: C.H.　中間名:

使用者群組主要是用在連動控制的判斷條件.

已分配的使用者群組

1 無　5 無

2 無　6 無

3 無　7 無

4 無

歷史紀錄

持卡人

一般 | 進階 | 個人聯絡方式 | 公司資訊 | 自訂 | Photo ID | 生物辨識 | 使用者群組 | 歷史紀錄 | 稽核

姓: Hung　名: C.H.　中間名:

系統訊息類型: 所有系統訊息　搜尋

拖曳欄位置至此作分類排序.

記錄時間(伺服器)	Timestamp (SPM)	Gateway	SPM	位置	訊息	卡號
2007/12/18 20:35:02	2007/12/18 20:35:02	demo2	Default SPM	Reader 0.1	允許通行 - 未進入	498
2007/12/18 20:35:01	2007/12/18 20:35:02	demo2	Default SPM	Reader 0.2	拒絕通行 - 不在此排程	498

系統訊息類型　下拉選單可選擇想搜尋的訊息種類。

搜尋　點選此按鈕後執行搜尋。

稽核

此頁面是用來查詢使用者(操作員)對此持卡人所作過的設定值變更的紀錄。

持卡人

一般 | 進階 | 個人聯絡方式 | 公司資訊 | 自訂 | Photo ID | 生物辨識 | 使用者群組 | 歷史紀錄 | 稽核

姓: Hung　名: C.H.　中間名:　搜尋

拖曳欄位置至此作分類排序.

記錄時間(伺服器)	使用者名稱	指令類型	細節
2008/1/25 15:43:49	admin	設定值變更	498
2008/1/25 15:43:49	admin	設定值變更	Hung C.H.
2008/1/25 15:40:14	admin	設定值變更	498
2008/1/25 15:40:14	admin	設定值變更	Hung C.H.
2008/1/25 15:40:08	admin	設定值變更	498
2008/1/25 15:40:08	admin	設定值變更	Hung CH

內容	舊數值	新數值
Last_Name	hung	Hung

記錄時間(伺服器)	使用者名稱	指令類型	細節
2007/12/18 20:07:06	admin	設定值變更	498

內容	舊數值	新數值
CredentialID		b9d3f27b-a17b-4281-bb62-e69c773778cf
CardHolderID		22bb2bec-4618-4dd3-a23b-cfca8cb9ab5c
CardStatusID		Active
PrintCard	0	1
Cardnumber	0	498

記錄時間(伺服器)	使用者名稱	指令類型	細節
2007/12/18 20:07:02	admin	刪除	500
2007/12/18 19:56:57	admin	設定值變更	500
2007/12/18 19:56:44	admin	設定值變更	hung CH

刪除

刪除卡號　於要刪除的卡號上按右鍵即會出現刪除功能。

刪除持卡人　於持卡人一般頁面任意空白處按右鍵即會出現刪除功能。

P.S. 刪除持卡人前需將該持卡人所擁有的卡號全部刪除。

事件監視

概要

Eclipse 700 被設計爲支援監控式以及自主式這二種設定組態。監控式的系統必須有一位操作員隨時監看即時事件並且對特定的事件做處理。而自主式系統則只是紀錄所有的系統訊息而不會有操作員隨時監看即時事件。當一個系統處於受監控的狀態下，不同的系統訊息可回報給特定的人員或只讓特定訊息只給特定的人員接收，在此情況下，事件的傳遞及事件的篩選設定將格外重要。

篩選器

篩選器提供對特定訊息的篩選功能，本系統安裝完成後以預先設定 3 種不同的篩選器，Concise、Standard、Diagnostic，你可以透過勾選盒來變更所要顯示的訊息，你以可以自己所想要的篩選器。Concise 爲預設爲顯示最基本的訊息，包括有警報、故障及允許通行等事件訊息。Standard 比 Concise 多了一些常需要的事件訊息。而 Diagnostic 則會顯示所有的事件訊息。設定這些篩選器只會影響訊息是否要顯示在 GUI 上，所有的訊息都會儲存在 Database 中的 message table。

所有的硬體設備(SPM, DDM, Reader)都可經由設定合適的篩選器來過濾不需要的訊息。

一般

篩選設定
一般 訊息 確認
新增篩選器
Concise
Diagnostic
Standard
屬性
敍述
Standard

點擊**新增篩選器**即可新增一個新的篩選器，點選敘述欄位即可修改該篩選器的敘述名稱。

訊息

篩選設定

一般 訊息 確認

篩選器

- Concise
- Diagnostic
- Standard

需顯示的訊息

- [ ] Gateway 登入
- [ ] Gateway 登出
- [ ] NAK
- [x] SPM - 破壞警報
- [x] SPM - 破壞警報解除
- [x] SPM - 連線
- [x] SPM - 電源正常
- [x] SPM - 電源故障
- [x] SPM - 離線 = 逾時
- [x] SPM ID 報告
- [ ] SPM 下載卡片
- [ ] SPM 命令
- [ ] SPM 命令佇列
- [ ] SPM 命令忽略
- [ ] SPM 命令狀態
- [ ] SPM 埠驅動狀態
- [ ] SPM 啟動偵錯
- [ ] SPM 暫存作動資訊數已超過限制
- [ ] 已存動作列表
- [ ] 不明訊息種類
- [x] 允許通行
- [x] 允許通行 - APB

選取**訊息**頁面，由此勾選該篩選器所要顯示的訊息。

確認

篩選設定

一般 訊息 確認

篩選器

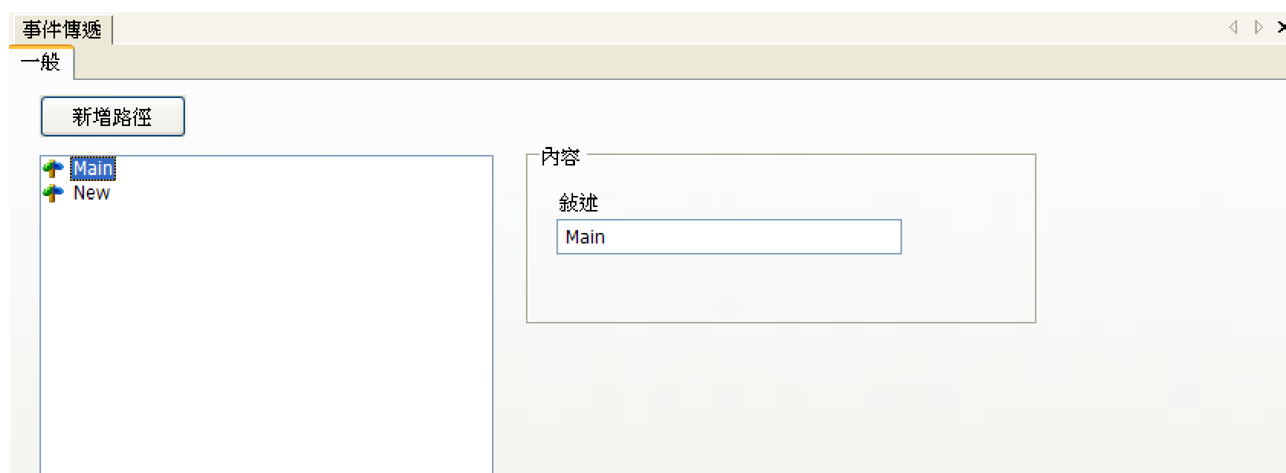
- Concise
- Diagnostic
- Standard

需做確認之訊息

- [x] SPM - 破壞警報
- [ ] SPM - 破壞警報解除
- [ ] SPM - 連線
- [ ] SPM - 電源正常
- [x] SPM - 電源故障
- [x] SPM - 離線 = 逾時
- [ ] SPM ID 報告
- [ ] 允許通行
- [x] 允許通行 - APB
- [ ] 允許通行 - APB, 未進入
- [ ] 允許通行 - 內碼, 未進入
- [ ] 允許通行 - 內碼正確
- [ ] 允許通行 - 卡機解鎖
- [ ] 允許通行 - 未進入
- [x] 允許通行 - 強制
- [x] 允許通行 - 強制, 但未進入
- [ ] 拒絕通行 - 人數管制限制
- [ ] 拒絕通行 - 已達通行人數
- [ ] 拒絕通行 - 不在此排程
- [ ] 拒絕通行 - 卡片格式錯誤 (Wiegand)
- [ ] 拒絕通行 - 卡片格式錯誤(Magstripe)

此**確認**頁面是用來勾選先前於**訊息**頁面內有被勾選的訊息是否可以發出警報並做確認。此處設定需配合裝置類型中的設定才有效。

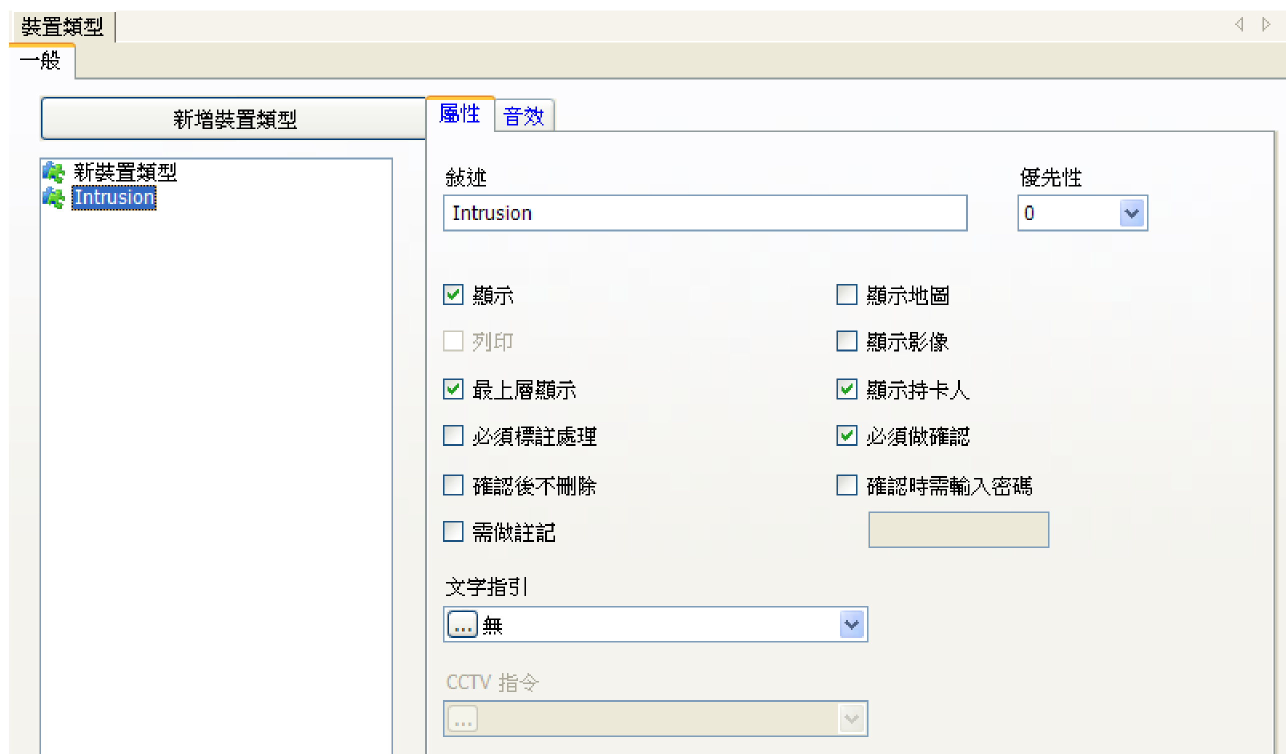
事件傳遞



點擊 **"新增路徑"** 可新增一個新的路徑。點選敘述欄位即可修改該路徑的敘述名稱。最多 50 個字元(25 個中文字)。

裝置類型

本系統中裝置類型需配合各硬體(SPM，控制板，讀卡機或監視點)設定頁面中監控頁面內設定。裝置類型爲使用者定義的設備群組不同使用性質的監視點或讀卡機可由此做歸類，賦予名稱，優先性，事件類型等選項。當系統接收到需做確認事件時，該事件就會顯示在警報列表上，如有啓用音效同時也會有音效產生。每種裝置類型都有其優先性(0~99)，事件優先性的排序爲裝置類型的優先性，事件類型(依序爲警報，故障，隔離，復歸)，最後是該設備的優先性。



點擊**新增裝置類型**可新增一個新的裝置類型。點選敘述欄位即可修改該裝置類型的敘述名稱。

敘述　此欄位允許使用者變更此裝置類型的名稱。最多 50 個字元(25 個中文字)。

優先性　下拉選單選則此裝置類型的優先性。範圍爲 0~99，0 爲最高優先性。

顯示　此功能控制該裝置類型是否會在警報視窗顯示。

列印　此功能可使印表機支援該裝置類型的警報列印功能。

最上層顯示　此功能可使 GUI 最上層顯示。

必須標注處理　此功能啓用後，操作員必須將此裝置類型的警報事件先標注爲處理中後才能做確認。

確認後不刪除　此功能對於有相對應訊息(警報/復歸)的事件有的特殊功能。例：監視點的警報事件會有一個相對應的復歸事件爲監視點安全；當這類的事件的警報被確認時，在事件在警報視窗中會標記爲已確認，但不會從警報視窗移除，而當其相對應的復歸事件確認後，二者將會同時從警報視窗移除。其他沒有復歸訊息的事件則會在確認後直接從警報視窗移除。例：允許通行，遠端解鎖。

需做註記　選取此功能後，操作員在確認事件時必需在該事件的註記欄內填入最少 3 個字的註記，否則該事件將無法被確認。

顯示地圖　此功能會將與該警報相關的地圖顯示出來。P.S. 此功能需安裝 Map Client。

顯示持卡人　此功能選取後，當有刷卡訊息時將會顯示該持卡人的照片。

必須做確認　此功能選取後，該裝置類型的相關事件就需要做確認。

確認時需輸入密碼　選取此功能開啓密碼確認功能。操作員在確認事件時需要輸入正確的密碼才能確認該事件。注意：不同裝置類型的確認密碼與該登入使用者的密碼無關。密碼長度最多 16 個字元。

文字指引　下拉選單可選取符合該裝置類型的文字指引；當操作員在處理該事件時選定的指引會顯示畫面誘發的文字指引處以提供操作員應變資訊。點擊...可編輯文字指引，每一個文字指引最多可有 8000 個字元(4000 個中文字)。



音效指引　下拉選單列表爲預設已安裝於 Eclipse 700/Sounds 目錄下的 .wav 檔案。你也可以自行新增音效檔於該目錄下(也可爲語音檔)。選定的檔案可供該裝置類型的事件播放給操作員聽，做爲事件應變的參考。

警報(故障，隔離，Clear)音效　下拉選單列表爲預設已安裝於 Eclipse 700/Sounds 目錄下的 .wav 檔案。你也可以自行新增音效檔於該目錄下(也可爲語音檔)。選定的檔案可供該裝置類型的各種事件類型的事件自動播放。

重複　下拉選單選則該事件類型在被確認前音效的重複播放的間隔時間。無重複爲只播放一次。

要確認事件有二個步驟。第一步，由警報視窗選取警報。

警報 (2)

狀態	使用者	處理時間	裝置類型	優先性	記錄時間(伺服器)	位置	訊息	細節	註記	事件種類
新警報		2008/3/12 15:03:14	Emergency Push Button	0	2008/3/12 15:03:14	Input 0.6 Reader 0.2 EP	監視點 - 安全			清除
處理中	admin	2008/3/12 15:03:32	Emergency Push Button	0	2008/3/12 15:03:11	Input 0.6 Reader 0.2 EP	監視點 - 警報			警報

滑鼠左鍵單擊該警報後，於處理中事件頁面會顯示關於該警報的詳細資訊，如下圖。

滑鼠左鍵雙擊該警報或右鍵選單選擇“處理此訊息”，於處理中事件頁面會顯示關於該警報的詳細資訊且該事件會被標注爲“處理中”。

該事件的相關指引會顯示在上圖畫面的右上方，如有音效指引可用，點擊喇叭圖示可重播音效指引一次；右下方註記處可填入針對該事件的註記，或可以下拉選單選擇事先編輯的可用註記。
點擊**確認**可對此事件做確認的動作。

所有連線中的 Client 都會即時接收到事件狀態的更新。

NOTE： 每一個操作員都可以同時處理多個事件，但是要確認事件時只有對該事件標注處理中的操作員可以對該事件做確認，系統管理員則不受此限制。

事件追蹤

事件追蹤視窗可顯示目前追蹤的事件，事件追蹤是用來針對使用者有高度興趣的定事件做集中監視，而不需要經過查詢的動作就可即時得知訊息。事件追蹤是以特定名稱群組來做分類，以下為各種可用來做事件追蹤的特定名稱群組。

Gateway、SPM、卡號、門禁群組、持卡人、訊息種類、控制板、控制點、監視點、讀卡機



在事件追蹤視窗空白處點選右鍵後點選**新追蹤**即可新增一個新的追蹤。



再來由追蹤類型下拉選取所要的類型，選定好要的追蹤後，點選新增追蹤即可新增。由於事件追蹤是以特定名稱群組來做分類，所以追蹤名稱無法變更而由系統自動產生。新增後該追蹤將會自動啓動。

事件追蹤的右鍵選單有以下功能。



新追蹤　可新增一個新的追蹤。

儲存全部追蹤　可儲存目前事件追蹤的設定值，下次登入時就可使用而不需重新設定。

開始追蹤　展開目錄可顯示目前停止中的追蹤，點選名稱可以繼續該追蹤。

停止追蹤　展開目錄可顯示目前執行中的追蹤，點選名稱可以停止該追蹤。

移除追蹤　展開目錄可顯示目前所有的追蹤，點選名稱可以移除該追蹤。

歷史紀錄　展開目錄可顯示目前所有的追蹤，點選名稱可以取回該追蹤的最近 50 筆訊息。

清除追蹤　展開目錄可顯示目前所有的追蹤，點選名稱可以清除該追蹤在事件追蹤視窗內的紀錄。

連動控制

概要

連動控制功能爲本系統中的強項，系統安裝者可以自行加入所需功能而不需要對軟體做變更。所有的觸發器條件與動作程序皆由 SPM 本身自動判斷與執行，不需要依賴電腦做處理。經由此頁面的規劃設定後，當觸發器條件符合時 SPM 將會自動執行動作程序。觸發器條件僅是一個特定系統訊息，這個訊息可以是最簡單的“監視點警報”以可以是複雜的“特定人員於某種時段在某個讀卡機的特定刷卡紀錄”。動作程序可以是將門解鎖或是以輸出點輸出觸發警報器。本系統預設的觸發器及程序數量皆爲 1000。

程序

此程序頁面可分別對每一個 SPM 的程序做設定，而每一個程序可以分配多個動作。點擊**新程序**按鈕可新增一個程序。要新增動作到程序中時，先點選要新增動作的程序後點擊**新增動作**按鈕即可新增動作到該程序下。



敍述　此欄位允許使用者變更此程序的名稱。最多 50 個字元(25 個中文字)。

新程序　點擊此按鈕可新增一個程序到左方樹狀圖下。

新增動作　點擊此按鈕即可新增動作至選定的程序下；使用動作型式選擇動作型式類型。此按鈕只在有選定程序時才能使用。



動作型式 下拉選單選擇要加到動作清單的動作，選擇不同的動作型式時下方的動作屬性以會不同。

動作物件字首 本功能目前停用。

程序動作列表

下列表格爲可選用的程序動作，選擇不同的動作形式後動作屬性也會跟著做變更。

動作型式	可用選項
APB 自由通行	所有持卡人
ASCII 輸出	文字輸出
	Buad Rate
	SPM 通道
延遲時間	延遲(秒)
控制點控制	開
	關
	單一脈衝
	重複脈衝
程序控制	終止延程序
	執行
	繼續執行已延遲的程序
週排程控制	關閉；直到下一次改變

	打開；直到下一次改變
	關閉
	打開
	繼續
	重新整理
監視點隔離	隔離
	取消隔離
數據機撥出字串	數據機撥出字串
觸發器變數控制	將變數設定爲 FALSE
	將變數設定爲 TRUE
讀卡機隔離 - 保持開啓	隔離
	取消隔離
讀卡機隔離 - 強制開啓	隔離
	取消隔離
讀卡機暫時解鎖	讀卡機
	作動時間
	保持開啓(時間)
	預警報(時間)
讀卡機暫時解鎖，忽略門的狀態	讀卡機
讀卡機模式控制	讀卡機
	模式

觸發器

此頁面設定該 SPM 執行程序動作前需符合的觸發器條件。

執行此程序　下拉選單選擇已儲存在此 SPM 的程序；當系統訊息符合觸發條件時 SPM 就會執行此程序。

程序指令　下拉選單選擇如何執行所選程序。可用選項有：終止，執行，繼續。

來源種類　下拉選單選擇觸發器的訊號來源種類。改變此選項後頁面右方的選單也會跟著改變，故此選項應優先選定。

來源　下拉選單選擇觸發器的訊號來源，此處列表是依據來源種類的設定值。

在此時程啓用　下拉選單選擇該觸發器啓用的排程時段。當所選的排程狀態爲啓用且系統訊息符合觸發器條件時才會執行選定的程序。

觸發器變數邏輯　下拉選單後會顯示設定對話窗，可在此視窗中定義所需的變數組合，當變數的狀態符合設定值時將會執行特定動作程序。觸發器變數是以布林變數表示(TURE 或 FALSE)，這些變數是儲存於 SPM 中，這些變數組合爲“a AND b OR c AND d”以符合需求。

系統訊息　下拉選單選擇所需的系統訊息種類(不同的來源種類會有不同的系統訊息種類)來做爲觸發器的觸發條件。

觸發器條件列表

下列表格爲可選用的觸發器系統訊息事件，選擇不同來源種類的後可用的系統訊息事件也會跟著做變更。

來源種類	系統訊息類型	可用選項
SPM 至主機的通訊	系統	主機離線
		主機連線
		系統訊息數量超過預設限制
SPM 偵錯	系統	SPM 啓動
SPM 內建輸入點	狀態改變	破壞警報發報
		破壞警報解除
		電源監視啓動
		電源監視停用
門禁控制讀卡機	二進位卡片資料(Weigand)	拒絕通行：卡片格式錯誤
	卡片資料(Magstripe)	拒絕通行：格式錯誤，順向讀取
		拒絕通行：格式錯誤，反向讀取
	合法持卡人的刷卡訊息	拒絕通行：卡片停用
	(使用者群組也可當作判斷條件)	拒絕通行：未達啓用時間
		拒絕通行：卡片過期
		拒絕通行：錯誤的排程
		拒絕通行：PIN 碼錯誤
		拒絕通行：違反 APB
		允許通行：違反 APB，門未使用
		允許通行：違反 APB
		拒絕通行：偵測到脅迫碼
		允許通行：脅迫
		允許通行：脅迫，門未使用
		允許通行：門未使用
		允許通行
		拒絕通行：從未允許
		拒絕通行：未出示第二張卡片
		拒絕通行：已達人數上限
		拒絕通行：區域未啓用
		拒絕通行：已達使用次數限制

		拒絕通行：未授權的資產
		拒絕通行：生物辨識失敗
		准許通行之請求：門的使用或未使用訊息將會回傳
		拒絕通行：生物辨識，無生物辨識裝置
		拒絕通行：生物辨識，無生物辨識範本
	有效的卡片格式	拒絕通行 - 卡機上鎖
		允許通行 - 卡機已解鎖
		拒絕通行: 內碼錯誤
		拒絕通行: 無效的內碼 Ext.
		拒絕通行 - 無資料
		拒絕通行: 發行碼錯誤
		允許通行 - 內碼，門未使用
		允許通行 - 內碼
		拒絕通行: 徵詢主機同意，逾時
		准許通行之請求：門的使用或未使用訊息將會回傳
		拒絕通行：已超過拒絕次數
		拒絕通行: 徵詢主機同意，不允許
	使用者指令	使用者由讀卡機 Keypad 鍵入：＊， 數字指令 1p3，＃
	門禁讀卡機模式改變	鎖住，開門按鈕無效
		解鎖
		鎖住
		內碼
		只使用卡片
		只需輸入 PIN
		卡片及 PIN 碼
		卡片或 PIN 碼
門禁讀卡機：門位偵測	門位：狀態改變	從主機停用
		離線
		任何門的警報解除訊息
		原本為強制開啓的門已關閉
		原本為保持開啓的門已關閉
		原本為強制開啓或保持的門已關閉

		門已關閉
		門開啓(無警報)
		保持開啓預警報
		任何門的警報訊息
		只限強制開啓
		只限保持開啓
		兩者(先強制後保持開啓)
		在任何時間保持開啓
		任一種(強制或保持)
		故障
門禁讀卡機：開門按鈕 1 輸入點	按鈕開門	離開循環：門的使用未證實
		離開循環：門未開啓
		離開循環：門開啓
		主機遠端開門：門的使用未證實
		主機遠端開門：門的未使用
		主機遠端開門：門已使用
門禁讀卡機：開門按鈕 2 輸入點	按鈕開門	離開循環：門的使用未證實
		離開循環：門未開啓
		離開循環：門開啓
		主機遠端開門：門的使用未證實
		主機遠端開門：門的未使用
		主機遠端開門：門已使用
門禁讀卡機：讀卡機破壞	狀態改變	破壞警報發報
		破壞警報解除
控制板到 SPM 的驅動控制板通訊	控制板通訊	從主機停用
		離線：逾時
		離線：無效的序號
		離線：指令過長
		連線：一般連線
控制板電源監視	狀態改變	電源監視啓動

		電源監視停用
控制板機櫃破壞	狀態改變	破壞警報發報
		破壞警報解除
控制點	狀態改變	從主機停用
		離線
		輸出點復歸
		輸出點做動
週排程	狀態改變	排程轉爲停止
		排程轉爲啓動
監視點	狀態改變	從主機停用
		離線
		警報解除：輸入點復歸
		警報：輸入點警報
		錯誤
		延遲離開程序
		延時進入進行中
		復歸(曾經作動)
		作動(曾經未作動)
		復歸(曾經警報)
		復歸(曾經錯誤)
		復歸(曾經警報或錯誤)
觸發器變數	狀態改變	觸發器變數轉爲 TRUE
		觸發器變數轉爲 FALSE

報表

本系統於 GUI Client 中內建有簡易報表功能，此報表允許使用者執行所有已內建的報表型式，但無匯出報表及自定義字型及加入圖片的功能。
內建的報表功能如下：

系統訊息

於**報表型式**下拉選單選取已內建的報表型式，選取及填入參數後點選**執行查詢**。

查詢完成後會自動跳至此一預覽畫面。於報表預覽區域內任一處按滑鼠右鍵可選取顯示其他未顯示欄位。於**檢視方式**下拉選單可變更顯示方式。

系統訊息報表

一般 | 預覽

檢視方式

列表檢視

拖曳欄位置至此作分類排序.

紀錄時間 (GM...	紀錄時間	記錄時間 (...	Gateway	SPM	位置	訊息	細節	卡號	姓	名
2008/9/2 06:52:01	2008/9/2 14:...	2008/9/2 14...	TEST20[_]2	新 SPM...	Reader...	允許通行	tt	3073		
2008/9/2 06:52:10	2008/9/2 14:...	2008/9/2 14...	TEST20[_]2	新 SPM...	Reader...	允許通行	tt	3073		
2008/9/2 06:52:18	2008/9/2 14:...	2008/9/2 14...	TEST20[_]2	新 SPM...	Reader...	允許通行	tt	3073		
2008/9/2 06:52:22	2008/9/2 14:...	2008/9/2 14...	TEST20[_]2	新 SPM...	Reader...	允許通行	tt	3073		
2008/9/2 06:52:30	2008/9/2 14:...	2008/9/2 14...	TEST20[_]2	新 SPM...	Reader...	允許通行	tt	3073		
2008/9/2 06:52:33	2008/9/2 14:...	2008/9/2 14...	TEST20[_]2	新 SPM...	Reader...	允許通行	tt	3073		
2008/9/2 09:52:50	2008/9/2 17:...	2008/9/2 17...	TEST20[_]2	新 SPM...	Reader...	讀卡機模式改變 -...		0		
2008/9/2 09:52:50	2008/9/2 17:...	2008/9/2 17...	TEST20[_]2	新 SPM...	Reader...	讀卡機模式改變 -...		0		
2008/9/2 09:52:51	2008/9/2 17:...	2008/9/2 17...	TEST20[_]2	新 SPM...	Reader...	讀卡機破壞警報解...		0		
2008/9/2 09:52:51	2008/9/2 17:...	2008/9/2 17...	TEST20[_]2	新 SPM...	Reader...	讀卡機破壞警報解...		0		
2008/9/2 09:52:51	2008/9/2 17:...	2008/9/2 17...	TEST20[_]2	新 SPM...	Reader...	開門按鈕線路 - 正常		0		
2008/9/2 09:52:51	2008/9/2 17:...	2008/9/2 17...	TEST20[_]2	新 SPM...	Reader...	讀卡機門位偵測 -...		0		
2008/9/2 09:52:51	2008/9/2 17:...	2008/9/2 17...	TEST20[_]2	新 SPM...	Reader...	開門按鈕線路 - 正常		0		
2008/9/2 09:52:51	2008/9/2 17:...	2008/9/2 17...	TEST20[_]2	新 SPM...	Reader...	讀卡機門位偵測 -...		0		
2008/9/2 09:53:51	2008/9/2 17:...	2008/9/2 17...	TEST20[_]2	新 SPM...	Reader...	讀卡機模式改變 -...		0		
2008/9/2 09:53:51	2008/9/2 17:...	2008/9/2 17...	TEST20[_]2	新 SPM...	Reader...	讀卡機模式改變 -...		0		
2008/9/2 09:53:52	2008/9/2 17:...	2008/9/2 17...	TEST20[_]2	新 SPM...	Reader...	讀卡機破壞警報解...		0		
2008/9/2 09:53:52	2008/9/2 17:...	2008/9/2 17...	TEST20[_]2	新 SPM...	Reader...	開門按鈕線路 - 正常		0		
2008/9/2 09:53:52	2008/9/2 17:...	2008/9/2 17...	TEST20[_]2	新 SPM...	Reader...	讀卡機門位偵測 -...		0		
2008/9/2 09:53:52	2008/9/2 17:...	2008/9/2 17...	TEST20[_]2	新 SPM...	Reader...	開門按鈕線路 - 正常		0		
2008/9/2 09:53:52	2008/9/2 17:...	2008/9/2 17...	TEST20[_]2	新 SPM...	Reader...	讀卡機門位偵測 -...		0		
2008/9/2 09:53:52	2008/9/2 17:...	2008/9/2 17...	TEST20[_]2	新 SPM...	Reader...	讀卡機破壞警報解...		0		
2008/9/4 01:40:43	2008/9/4 10:...	2008/9/4 09...	TEST20[_]2	新 SPM...	Reader...	讀卡機模式改變 -...		0		
2008/9/4 01:40:43	2008/9/4 10:...	2008/9/4 09...	TEST20[_]2	新 SPM...	Reader...	讀卡機模式改變 -...		0		
2008/9/4 01:40:46	2008/9/4 10:...	2008/9/4 09...	TEST20[_]2	新 SPM...	Reader...	開門按鈕線路 - 正常		0		
2008/9/4 01:40:46	2008/9/4 10:...	2008/9/4 09...	TEST20[_]2	新 SPM...	Reader...	讀卡機門位偵測 -...		0		
2008/9/4 01:40:46	2008/9/4 10:...	2008/9/4 09...	TEST20[_]2	新 SPM...	Reader...	開門按鈕線路 - 正常		0		
2008/9/4 01:40:46	2008/9/4 10:...	2008/9/4 09...	TEST20[_]2	新 SPM...	Reader...	讀卡機門位偵測 -...		0		
2008/9/4 01:40:46	2008/9/4 10:...	2008/9/4 09...	TEST20[_]2	新 SPM...	Reader...	讀卡機破壞警報解...		0		
2008/9/4 01:40:46	2008/9/4 10:...	2008/9/4 09...	TEST20[_]2	新 SPM...	Reader...	讀卡機破壞警報解...		0		
2008/9/5 06:38:22	2008/9/5 14:...	2008/9/5 14...	TEST20[_]2	新 SPM...	Reader...	允許通行	tt	3073		

持卡人

於**搜尋類型**下拉選單選取已內建的報表型式後點選 執行查詢。於**檢視方式**下拉選單可變更顯示方式。

持卡人報表

一般

搜尋類型
持卡人(全部)

檢視方式
卡片檢視

搜尋條件
搜尋字串
起始日期 2007/11/3
門禁群組 Please Make a Selection
結束日期 2007/11/3

CARD

姓	CARD
名	TEST
門禁群組	Always Active
卡號	14081
卡片狀態	Active
紀錄時間	2008/9/5 16:45:54

t

姓	t
名	t
門禁群組	Always Active
卡號	3073
卡片狀態	Active
紀錄時間	2008/9/5 14:38:55

讀卡機權限

選取所要查詢的讀卡機或選取全部讀卡機後點選**執行查詢**。

讀卡機權限

一般 | 預覽

○ 全部讀卡機　　執行查詢

◉ 選定的讀卡機

硬體選擇

☑ Reader 0.1 (TEST20_2 - 新 SPM 0 - Dual Door Module (DDM))
☑ Reader 0.2 (TEST20_2 - 新 SPM 0 - Dual Door Module (DDM))

查詢完成後會自動跳至此一預覽畫面。於報表預覽區域內任一處按滑鼠右鍵可選取顯示其他未顯示欄位。於**檢視方式**下拉選單可變更顯示方式。

讀卡機權限

一般 | 預覽

預覽

列表檢視

讀卡機

門禁群組	門禁層級	讀卡...	名	姓	卡號	週排程	起始時間	結束時間	日	一	二	三	四	五	六
讀卡機: Reader 0.1 (1 Items)															
Always A...	新門禁...	Reader 0...	TEST	CARD	14081	新排程 1	00:00	23:59	☐	☑	☑	☑	☑	☑	☐
Always A...	新門禁...	Reader 0...	t	t	3073	新排程 1	00:00	23:59	☐	☑	☑	☑	☑	☑	☐
讀卡機: Reader 0.2 (2 Items)															
Always A...	新門禁...	Reader 0...	TEST	CARD	14081	新排程 1	00:00	23:59	☐	☑	☑	☑	☑	☑	☐
Always A...	新門禁...	Reader 0...	t	t	3073	新排程 1	00:00	23:59	☐	☑	☑	☑	☑	☑	☐

硬體設定值

於**報表類型**下拉選單選取已內建的報表型式後系統將自動執行查詢。於報表預覽區域內任一處按滑鼠右鍵可選取顯示其他未顯示欄位。於**檢視方式**下拉選單可變更顯示方式。

目前僅提供以下報表類型。

Magstripe 資料庫，Wiegand 資料庫，SPM，控制板，網路攝影機，輸入點，輸出點，讀卡機。

硬體設定值

一般

報表類型: 讀卡機

檢視方式: 列表檢視

拖曳欄位置至此作分類排序.

Gateway	SPM	控制板	敘述	預設連線模...	離線模式	啓用 (門位...	保持開啓	最小值	最大值
TEST20_2	新 SPM 0	Dual Door M...	Reader 0.1	只使用卡片	解鎖	✓	30	1	7
TEST20_2	新 SPM 0	Dual Door M...	Reader 0.2	卡片或PIN碼	解鎖	✓	30	1	7

API

Overview

The Eclipse 700™ system is a suite of software applications and services that provide configuration and monitoring of physical facility security including access control, intrusion detection, and automation. The software is based on the Microsoft .NET 1.1 framework and is written in VB.Net using Visual Studio 2003.

The software can be logically broken down into 4 major components. These are the database engine, application server, gateway, and client.

The Application Server is the heart of the Eclipse 700™ system. It is the only component that communicates directly with the database engine. It is an asynchronous, TCP socket server that accepts connections from both the gateways and clients and provides a generic transport mechanism for any .NET class object, collection of those objects, or file.

Both clients and gateways can be configured for DHCP as the Application Server tracks each incoming connection by its current IP Address. Since only .NET class objects are transported over the network socket connection, there is no need for any database knowledge at either the client or the gateway.

The Gateway is the software service component that communicates with the field hardware and the Application Server. It receives .NET class objects for the hardware that it is responsible for servicing. All transactions generated by the hardware are formatted into a .NET class object for transport back to the Application Server. The service can reside on the same machine as the application server, another machine on the network, or across the Internet. The service supports static IP Addresses as well as the default of DHCP. Currently, the Gateway supports two different types of hardware. Both of these are from Mercury Security Corporation. Although similar in features, each hardware type has a different number of inputs, outputs, and readers for each panel. Each hardware type also has a different set of support libraries from Mercury Security Corporation. These libraries (C++ Dlls) handle the communication to the physical hardware and have been wrapped into a .NET class that is included in the Gateway service. Each hardware type has a slightly different version of the Gateway service yet both receive and output the exact same objects.

The clients in the Eclipse 700™ system are software applications or services that connect to the Application Server for the purpose of configuration and monitoring. The clients have no database knowledge or database drivers, communicate only with the Application Server, and perform all communications asynchronously. There are a number of different clients available:

- User Interface Client
- Report Client
- PhotoID Client

• Mapping Client
• NVR Integration Client (service based)

All clients perform the same initial steps of connecting to the Application Server and requesting certain objects. Each client provides a login/password for authentication and is then assigned a session identifier that is used for the length of the connection. The Application Server controls the information presented to each client through the login information. This includes the authorized hardware, routing of messages, and filtering of messages.

Required References

In order to integrate an application with the Eclipse™ 700 framework, you will need to add the following references to your VB.NET solution.

- ClientSocketServices.dll
- DHS.dll
- DHS_Commands.dll
- SocketServices.dll
- Utility.dll

After you have added the above references, each class that will be using any of the functions or event handlers should have this code at the beginning of the class:

```
Imports ClientSocketServices
Imports DHS_Commands
Imports DHS
Imports Utility
Imports SocketServices
```

The DHS_Commands reference and Imports declaration are only needed if you are receiving messages from or sending messages to a Gateway Service.

In the declarations section, add the following lines:

```
Public WithEvents AppServer As New ClientAppServer
Public Token As LoginToken
```

You will also need to add this subroutine in the constructor region of your main form class if you have a separate login form:

```
Public Sub New(ByVal clienttoken As LoginToken)
    MyBase.New()
    'This call is required by the Windows Form Designer.
    InitializeComponent()
    Token = clienttoken
    AppServer = New ClientAppServer(Token, True)
End Sub
```

Methods

The following methods are called by the client on the Appserver object.

```
Public Sub New(ByVal clienttoken As LoginToken, ByVal Optional AlreadyAuthenticated As Boolean =
False)
Public Sub CardholderPhotoRetrieve(ByVal rPhoto As CardholderPhoto)
Public Sub CardholderPhotoSave(ByVal rPhoto As CardholderPhoto)
Public Function CreatePanel(ByVal panel As Panel) As Object
Public Function Delete_Aysnc(ByVal obj As Object) As Object
Public Sub GetCardholderInfo_ByAccessGroup(ByVal accessGroupID As String)
Public Sub GetCardholderInfo_ByNumber(ByVal cardnumber As Long)
Public Sub GetConnectedUsers()
Public Function GetGatewayTree(ByVal id As String, ByVal Optional ForGateway As Boolean = False)
As Object
Public Sub GetNextSequentialCardnumber(ByRef rCredential As Credential)
Public Sub GetUniquePin(ByVal pinLength As Integer)
Public Function Login(ByVal Optional AlreadyAuthenticated As Boolean = False) As Boolean
Private Sub RecieveObject(ByVal rr As RemoteRequest)
Public Function Retrieve(ByVal id As String, ByVal objType As Type, ByVal Optional getChildren As
Boolean = False) As Object
Public Function RetrieveChannels_ByGateway(ByVal GatewayID As String) As Object
Public Function RetrieveCollection(ByVal collectionType As Type) As Object
Public Function RetrieveCollection_BySPM(ByVal SPMID As String, ByVal collectionType As Type) As
Object
Public Sub RunReport(ByVal rReportDef As ReportDefinition)
Public Function Save_Aysnc(ByVal obj As Object) As Object
Public Sub SearchCardholders(ByVal first As String, ByVal middle As String, ByVal last As String)
Public Sub SendCommand(ByVal cmd As baseCommand)
Public Sub SendGatewayMessage(ByVal msg As Message)
```

```
Public Function SendRequest(ByVal request As RemoteRequest) As Boolean
Public Sub SendStatusMessage(ByVal msg As StatusMessage)
Public Sub UpdatePassword(ByVal newPassword As String)
```

Login

In order to connect to the Application Server and retrieve/save objects, you will need to pass a token to the Application Server for authentication. If authentication is successful, then the socket connection is assigned a unique session identifier that is used for all communications until the session ends. The code below shows how to create and connect to the Application Server.

```
Option Explicit On
Imports SocketServices
Imports ClientSocketServices
Imports DHS
Public Class yourclassname
    Dim WithEvents AppServer As ClientAppServer
    Dim Token As New LoginToken
    Dim handler As New LoginHandler
    Token = handler.RequestLogin( _
        txtUser.Text(), _
        txtPassword.Text(), _
        localPort:=12000, _
        serveraddress:=strServerAddress, _
        serverLoginPort:=11000, _
        timeoutInSeconds:=10)
    If Token.Authenticated Then
        AppServer = New ClientAppServer(Token, True)
        AppServer.RetrieveCollection(GetType(Gateways))
    End If
End Class
```

Retrieving Objects

The methods available at the Application Server are written to pass and return generic objects when retrieving an object or collection of objects. The code below shows an example of retrieving the gateways collection.

```
AppServer.RetrieveCollection(GetType(Gateways))
```

The Application server asynchronously returns a Gateways collection object which is handled in the AppServer.ReceiveRequest event.

```
Private Sub ReceiveMessage(ByVal rr As RemoteRequest) Handles AppServer.ReceiveRequest
    If TypeOf (rr.TransferObject) Is Gateways Then
    'Object returned a collection of Gateway object
    End if
End Sub
```

Note: The AppServer.Retrieve and AppServer.RetrieveCollection methods return only the objects the current user session is authorized for if the current user session is not a system administrator session.

Saving Objects

There is only one method for saving an object or collection of objects and that method is executed asynchronously and the result is also returned asynchronously to all connected clients and gateways. This is critical for each client to update its menus and the gateways to automatically handle the new or changed data. An example of a save method call is shown in the code below.

```
AppServer.Save_Aysnc(objReader)
```

Saving a collection of objects is exactly the same as the code below illustrates.

```
AppServer.Save_Aysnc(objCollSchedule)
```

There are special cases where a different object is created and sent to the gateways. These cases all involve the cardholderdownload object. This object is created when a cardholder, credential, or accessgroupaccesslevel objects are saved. The original object is returned to all the clients and the cardholderdownload object is created and sent to the gateways.

Receiving Messages

Messages generated by the gateways are sent to the Application Server where they are stored in the Messages table and then sent to the connected clients. This is done in real-time with no polling for message queues and is also asynchronous. The clients receive messages as they happen and are handled in the same way as any other object.

```
Private Sub ReceiveMessage(ByVal rr As RemoteRequest) Handles AppServer.ReceiveRequest
    If TypeOf (obj.TransferObject) Is DHS_Commands.Message Then
```

```
            'Handle the Message object here
            End if
        End Sub
```

The DHS_Commands.Message object contains everything the client needs to present the data to the end user. It also includes a pathway back to the message source so override commands can easily be sent. The structure of the object is as follows:

```
    Public Structure sMessage
        Public MessageID as String
        Public RouteID as String
        Public GatewayID as String
        Public SPMID As String
        Public ObjectID as String
        Public MessageStatus as Integer
        Public SerialNumber as Int32
        Public SourceType as Int32
        Public SourceNumber as Int32
        Public TransType as Int32
        Public Transcode as Int32
        Public Description as String
        Public MessageDescription as String
        Public Detail as String
        Public CardNumber as Integer
        Public MessageType as Int32
        Public TimeStamp_GMT as DateTime
        Public TimeStamp_SPM as DateTime
        Public TimeStamp_Server as DateTime
        Public Status1 as Int32
        Public Status2 as Int32
        Public Priority as Int32
        Public DeviceTypeID as String
        Public CameraID as String
        Public EnableSounds As Boolean
        Public CardHolderID As String
        Public AccessGroupID As String
        Public GatewayDescription As String
        Public SPMDescription As String
End Structure
```

Object Listing

All of the data that is transmitted over the network between the client and the application server or the application server and the gateway is a .NET class object. The objects are currently in the DHS.dll are listed in the table below.

Object Name	Description
AccessGroup	The Access Group is linked to the cardholder and controls where and when the cardholderisauthorized for entry.
AccessGroupAccessLevel	This object associates the AccessGroup with a specific AccessLevel on a specific SPM.
AccessGroups	A collection of AccessGroup objects.
AccessLevel	The Access Level is a collection an AccessLevelReaderSchedules
AccessLevelReaderSchedule	Represents a reader@schedule for the access level
AccessLevelReaderSchedules	A collection of AccessLevelReaderScheduleobjects
AccessLevels	A collection of AccessLevel objects
AppServerOption	Reserved for Future Use
AppServerOptions	A collection of AppServerOption objects
AreaControl	Reserved for Future Use
AreaControls	A collection of AreaControl objects
CardFormat	The card format is assigned to an SPM and is the format which the readers are configured to work with..
CardFormats	A collection CardFormat objects.
CardhoderDownload	This object is sent to the gateways on a Cardholder, Credential, or AccessGroupAccessLevel save.

CardHolder	The cardholder object has a credential collection and umerous links to other objects. It is the top object in the hierarchy.
CardholderInfo	This object contains a limited subset of the cardholder object after a search request. This object contains the search results.
CardholderInfos	A collection of CardholderInfo objects Object Name Description
CardholderPhoto	This object is one of the few that have a byte array property. That property contains the bytes of the streamed photo file. The photo file is named the Cardholder GUID and located in the Eclipse 700/Photos directory on the Application Server machine.
CardHolders	A collection of Cardholder objects
CardHolderTemplate	This object contains properties that are used when the user clicks on the Add New button.
CardHolderTemplates	A collection of CardHolderTemplate objects CardStatus A simple lookup table of a description and active flag in the Cardholder menu.
CardStatuss	A collection of CardStatus objects CardType The cardtype is the facility code and card format assigned to the SPM. Each SPM supports 8 card types.
CardTypes	A collection of CardType objects
Channel	The Channel object is used by the Gateway to create communication ports that support the SPM.
Channels	A collection of Channel objects
Company	A simple lookup table used in Cardholder menu.
Companys	A collection of Company objects
ControlPoint	This object represents an output in the system.

ControlPoints	A collection of ControlPoint objects
CostCenter	A simple lookup table used in Cardholder menu.
CostCenters	A collection of CostCenter objects
Credential	Also known as a cardnumber, it contains additional information on active status and default print.
Credentials	A collection of Credential objects
CustomField	A simple lookup table used in Cardholder menu.
CustomFields	A collection of CustomField objects
Daylight	This object represents the DST rules for a specific SPM for a calendar year. Each SPM supports 20 of these objects.
Daylights	A collection of Daylight objects Object Name Description
Department	A simple lookup table used in Cardholder menu.
Departments	A collection of Department objects
DeviceType	This object is associated with the field hardware and serves as another distinction on the type of sensor.
DeviceTypes	A collection of DeviceType objects
ExpirationReason	A simple lookup table used in Cardholder menu.
ExpirationReasons	A collection of ExpirationReason objects
Filter.	The filter object is used to log only the selected events and not broadcast the status changes to any client.
FilterMessageType	Represents an event type and acknowledge option

FilterMessageTypes	A collection of FilterMessageType objects
Filters	A collection of Filter objects
Gateway	The main object representing SPM's and their children
Gateways	A collection of Gateway objects
Holiday	Represents a start date and a number of days to become a holiday. Affects all schedule intervals on the same SPM
Holidays	A collection of Holiday objects IPAddressFilter Reserved for Future Use
IPAddressFilters	A collection of IPAddressFilter objects
Location	A simple lookup table used in Cardholder menu.
Locations	A collection of Location objects
MenuListItem	Represents a specific menu
MenuListItems	A collection of MenuListItem objects
MonitorPoint	Represents an input in the system
MonitorPoints	A collection of MonitorPoint objects
NetworkCamera	Represents a network camera in the system
NetworkCameras	A collection of NetworkCamera objects
Panel	This object is attached to the SPM and has the Monitor Point, Control Point and Reader objects as children
Panels	A collection of Panel objects

PhotoIDLayout	The object represents a Layout template file used in PhotoID. The file is in the byte array property.
PhotoIDLayouts	A collection of PhotoIDLayout objects
Procedure	This object represents the beginning of a macro for the SPM
ProcedureAction	These objects are attached to the Procedure object. Multiple objects can be added to the same Procedure
ProcedureActions	A collection of ProcedureAction objects
Procedures	A collection of Procedure objects
Reader	Represents a Reader in the system
ReaderLED	Represents 1 of the 3 LED modes on the SPM
ReaderLEDs	A collection of ReaderLED objects
Readers	A collection of Reader objects
ReaderSchedule	This object is represents a reader at a specified schedule. Multiple objects can be added to the Access Level object
ReaderSchedules	A collection of ReaderSchedule objects
Relationship	A simple lookup table used in Cardholder menu.
Relationships	A collection of Relationship objects
ReportCardholder	A special object that is used to run reports on cardholders. It is the search result.
ReportCardholders	A collection of ReportCardholder objects
ReportDefinition	The object that defines the type and parameters of the report.This object determines what type of object (ReportCardholder or ReportMessage) that is returned from the query.

ReportDefinitions	A collection of ReportDefinition objects
ReportMessage	A special object that is used to run reports on messages. It is the search result.
ReportMessages	A collection of ReportMessage objects
Route	The object is used to determine where to send messages
Routes	A collection of Route objects
RouteUserAccountGroup	Used by the Application server to determine if a login belongs to a particular Route
RouteUserAccountGroups	A collection of RouteUserAccountGroup objects
ScanTable	Specifies the EOL values for an SPM
ScanTables	A collection of ScanTable objects
Schedule	This object represents the parent object of schedule intervals. Assigned to the SPM object
ScheduleInterval	This object is the DOW and time of days designation. Multiple objects can be added to the Schedule object
ScheduleIntervals	A collection of ScheduleInterval objects
Schedules	A collection of Schedule objects
SPM	The object is attached to the Gateway and has the Panel, Cardtype, Schedule, Holiday, Procedure, TriggerCondition objects as children.
SPMHoliday	Reserved
SPMHolidays	A collection of SPMHoliday objects

SPMs	A collection of SPM objects
State	A simple lookup table used in Cardholder menu.
States	A collection of State objects
TriggerCondition	Attached to the SPM, represents a condition at the SPM that executes a Procedure
TriggerConditions	A collection of TriggerCondition objects
UserAccount	The object represents the login user
UserAccountGroup	The group that the UserAccount object is assigned
UserAccountGroupAccessGroup	This object represents a user account and access group assignment used to control which access groups are shown to a particular login.
UserAccountGroupAccessGroups	A collection of UserAccountGroupAccessGroup objects
UserAccountGroupGateway	This object represents a user account and gateway assignment used to control which gateways are shown to a particular login.
UserAccountGroupGateways	A collection of UserAccountGroupGateway objects
UserAccountGroups	A collection of UserAccountGroup objects
UserAccountGroupSPM	This object represents a user account and SPM assignment used to control which SPMs are shown to a particular login.
UserAccountGroupSPMs	A collection of UserAccountGroupSPM objects
UserAccounts	A collection of UserAccount objects
UserAccountType	A simple list of account types
UserAccountTypeMenuItem	The object control the type of menu items shown to a login

UserAccountTypeMenuItems	A collection of UserAccountTypeMenuItem objects
UserAccountTypes	A collection of UserAccountType objects
UserGroup	This object controls which gateways are shown, spms, routes, and access groups.
UserGroups	A collection of UserGroup objects
UserMessage	Object is sent when a client or gateway connects or disconnects.
UserMessages	A collection of UserMessage objects
UserSession	A unique identifier assigned on each login of a client. Once the session ends, the a new session is created for the same login
UserSessions	A collection of UserSession objects

Hardware Manuals

AP Series

AP-SPM Intelligent Controller

With Two Reader Interface

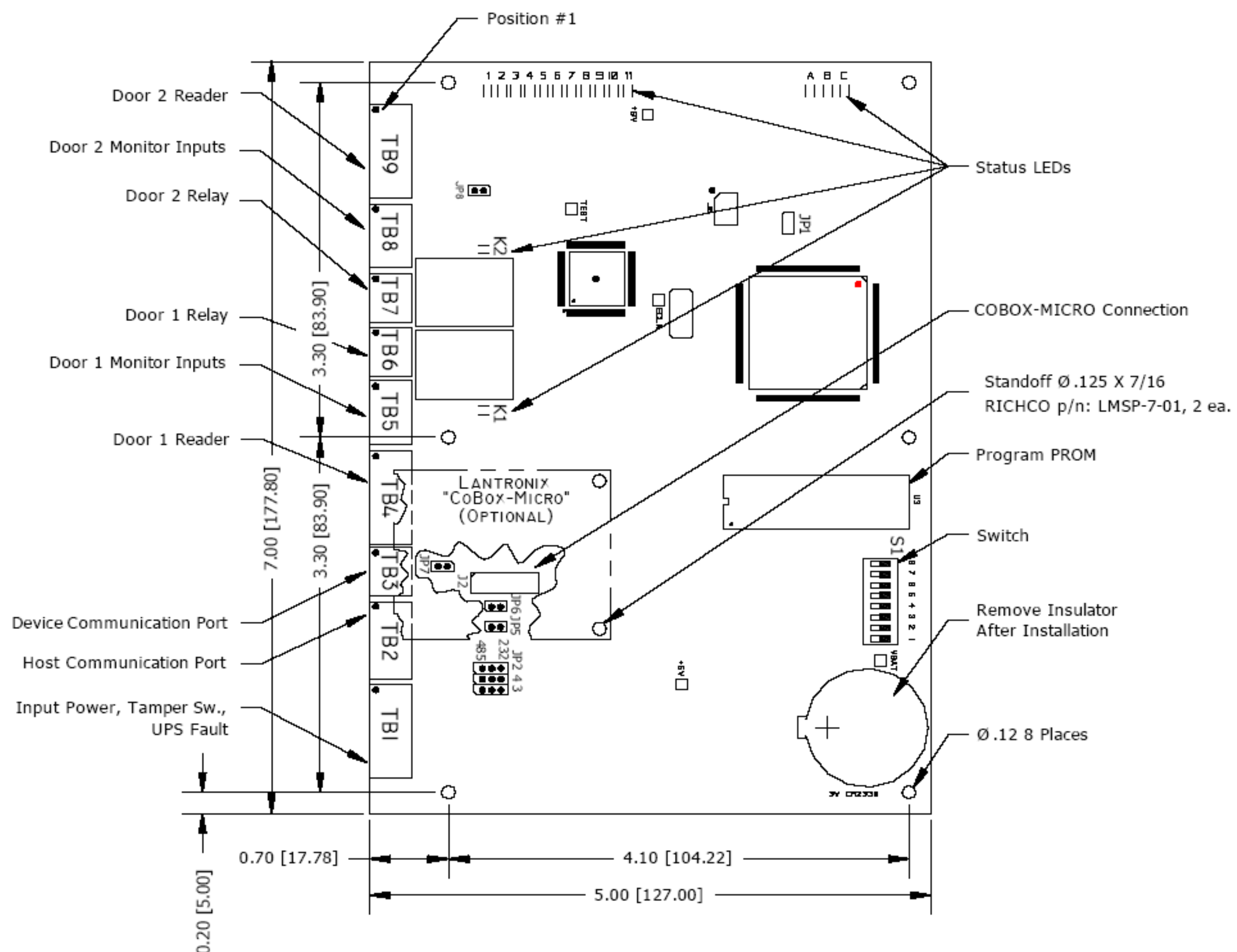
Installation and Specifications:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



1. General:

The AP-SPM controller provides a single board solution to control 2 doors with a 5,000 cardholder database. The AP-SPM holds the data base for the subsystem configuration, card holders, and the event log buffer in battery backed memory. Configuration data and event/status reports are communicated to the host via the host communication port. Additional I/O devices (SIO's) are communicated to via the SIO communication port, 2-wire RS-485. The host port may be set up as a RS-232 interface, 2-wire RS-485 interface, or with an additional Lantronix CoBox-Micro, an Ethernet 10BaseT LAN interface. Two physical barriers can be controlled with the AP-SPM. A reader port, two inputs for door position sensing and Request to Exit button, and a relay are available for each physical barrier. Each reader port can accommodate a read head that utilizes Wiegand, magnetic stripe or 2-wire RS-485 electrical signaling standards, one or two wire LED controls, and buzzer control (one wire LED only). Inputs can be configured to meet Grade A Supervision requirements. The relay contacts are rated at 5A @ 30Vdc, dry contact configuration. It is recommended that the AP-SPM be mounted .25" minimum above any conductive surface. The layout of the AP-SPM is shown below.



2. Configuring the AP-SPM Hardware:

The AP-SPM controller hardware is configured with a number of jumpers and an 8 position DIP switch (S1). These jumpers/switches setup the port interface, end of line termination, processor address, and baud rate. Please refer to the tables below for the settings.

JP1 through JP8 Jumpers:

JUMPER	SET AT	SELECTED
JP1	ON	Host Port is Serial, RS-232 or RS-485
	OFF	Host Port Uses CoBox-Micro Ethernet Module
JP2 - 4	485	Host Port is RS-485
	232	Host Port is RS-232
JP-5	ON	Host Port RS-485 EOL Terminator is Engaged
	OFF	Host Port RS-485 EOL Terminator is Not Engaged
JP-6	ON	Port 2 RS-485 EOL Terminator is Engaged
	OFF	Port 2 RS-485 EOL Terminator is Not Engaged
JP7	OFF	Not Used
JP8	OFF	Not Used

S1 DIP Switch:

S1 through S4 defines the host communication address number. S5 defines hardware handshaking.

NOTE: When using the CoBox-Micro Ethernet module, hardware handshaking should be enabled to insure reliable communication.

S6 and S7 define the communication baud rate between the AP-SPM and the host.S8, when ON, requires the host to log on with a valid password.

S8	S7	S6	S5	S4	S3	S2	S1	Selection
				OFF	OFF	OFF	OFF	Address 0
				OFF	OFF	OFF	ON	Address 1
				OFF	OFF	ON	OFF	Address 2
				OFF	OFF	ON	ON	Address 3
				OFF	ON	OFF	OFF	Address 4
				OFF	ON	OFF	ON	Address 5
				OFF	ON	ON	OFF	Address 6
				OFF	ON	ON	ON	Address 7
			OFF					No Hardware Handshake
			ON					RTS/CTS Controlled
	OFF	OFF						2,400 BPS
	OFF	ON						9,600 BPS
	ON	OFF						19,200 BPS
	ON	ON						38,400 BPS
OFF								No Password Required
ON								Password Required

3. Memory Backup Battery:

The configuration data and the event buffer are backed up by a 3V lithium battery. Without power being applied to the AP-SPM, the battery will retain configurations and transactions for 3 months. This battery should be replaced annually to insure that proper backup functionally is maintained. Remove the insulator from the battery holder after installation.

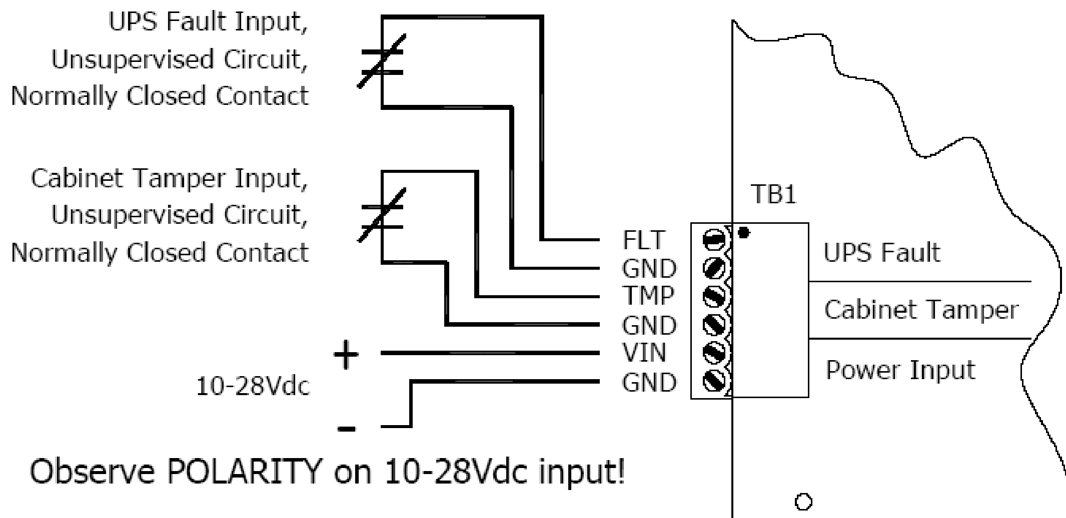
4. AP-SPM Wiring Connections:

		CONNECTION
TB1	1	UPS Fault: FLT: Input
	2	UPS Fault: GND: Ground
	3	Cabinet Tamper: TMP: Input
	4	Cabinet Tamper: GND: Ground
	5	Power: VIN: Power Input (10 - 28Vdc)
	6	Power: GND: Ground
TB2	1	Host Port: TXD (RS-232) or TR+ (RS-485)
	2	Host Port: RXD (RS-232) or TR- (RS-485)
	3	Host Port: RTS (RS-232)
	4	Host Port: CTS (RS-232)
	5	Host Port: Ground
TB3	1	SIO Port: RS485-1: TR+
	2	SIO Port: RS485-1: TR-
	3	SIO Port: RS485-1: Ground
TB4	1	Reader 1: VO - Reader Power
	2	Reader 1: LED - Reader LED
	3	Reader 1: BZR - Reader Buzzer
	4	Reader 1: CLK - Clock/Data1/TR+
	5	Reader 1: DAT - Data/Data 0/TR-
	6	Reader 1: GND - Ground
TB5	1	Input 1: IN1
	2	Input 1: IN1
	3	Input 2: IN2
	4	Input 2: IN2
TB6	1	Relay 1: NO - Normally Open Contact
	2	Relay 1: C - Common
	3	Relay 1: NC - Normally Closed Contact
TB7	1	Relay 2: NO - Normally Open Contact
	2	Relay 2: C - Common
	3	Relay 2: NC - Normally Closed Contact
TB8	1	Input 3: IN3
	2	Input 3: IN3
	3	Input 4: IN4
	4	Input 4: IN4
TB9	1	Reader 2: VO - Reader Power
	2	Reader 2: LED - Reader LED
	3	Reader 2: BZR - Reader Buzzer
	4	Reader 2: CLK - Clock/Data1/TR+
	5	Reader 2: DAT - Data/Data 0/TR-
	6	Reader 2: GND - Ground

5. Input Power, Cabinet Tamper and UPS Fault Input Wiring:

The AP-SPM requires 10-28Vdc power. Locate power source as closed to the unit as possible. Connect power with minimum of 18AWG wires. Observe POLARITY on 10-28Vdc input!

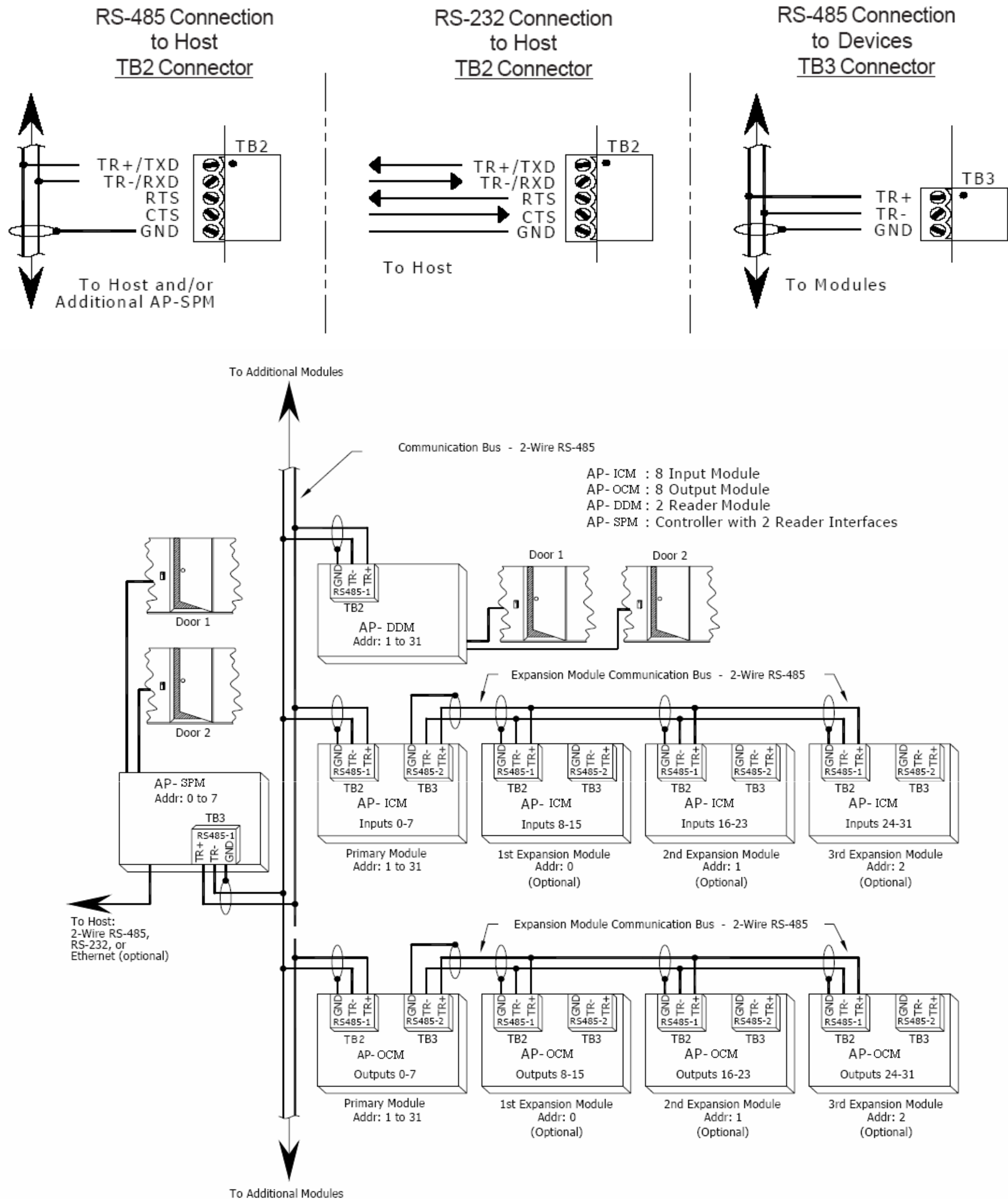
There are two dedicated inputs for cabinet tamper (TMP) and UPS fault monitoring (FLT). Normal (safe) condition is closed contact. If these inputs are not used, install a jumper wire.



6. Communication Wiring:

The AP-SPM controller communicates to host via the host port (TB2: RS-232 or RS-485). The host port may be set up as RS-232, RS-485 or Ethernet 10BaseT (Lantronix CoBox-Micro or compatible device required). RS-232 interface is for direct one to one connection to a host computer port or via modem, 25 feet maximum. RS-485 interface is for multi-drop or direct wire applications where extended distance is needed, 4000 feet maximum. With the addition of a Lantronix CoBox-Micro Module (or compatible), the AP-SPM can also communicate with the host computer via Ethernet. This is accomplished by plugging in the Ethernet adapter into the J2 header and properly securing using plastic standoffs to insure that the adapter does not touch the AP-SPM. To configure the AP-SPM to utilize the Ethernet adapter, JP1 must be OFF. The last step is to configure the Ethernet adapter to settings compatible with your Ethernet environment. The SIO communication port (TB3) is a 2-wire RS-485 interface which can be used to connect additional AP Series I/O panels (SIO's). The interface allows multi-drop communication on a single bus of up to 4,000 feet (1,200 m). Use twisted pairs (minimum 24 AWG) with an overall shield for the communication.

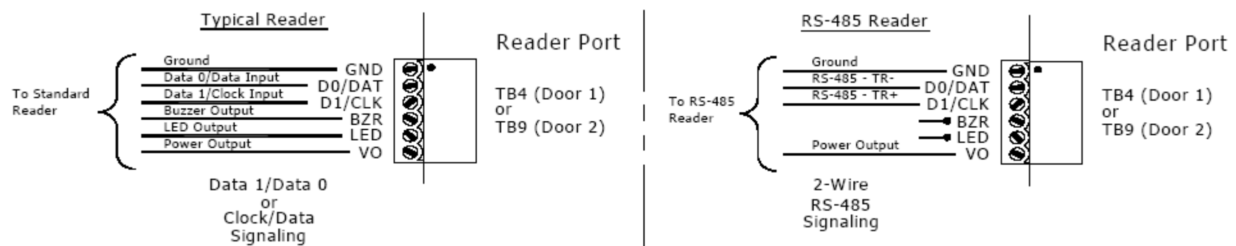
IMPORTANT NOTE: Install the termination jumper ONLY on the panel at each end of the RS- 485 bus. Failure to do so will compromise the proper operation of the communication channel.



7. Reader Wiring:

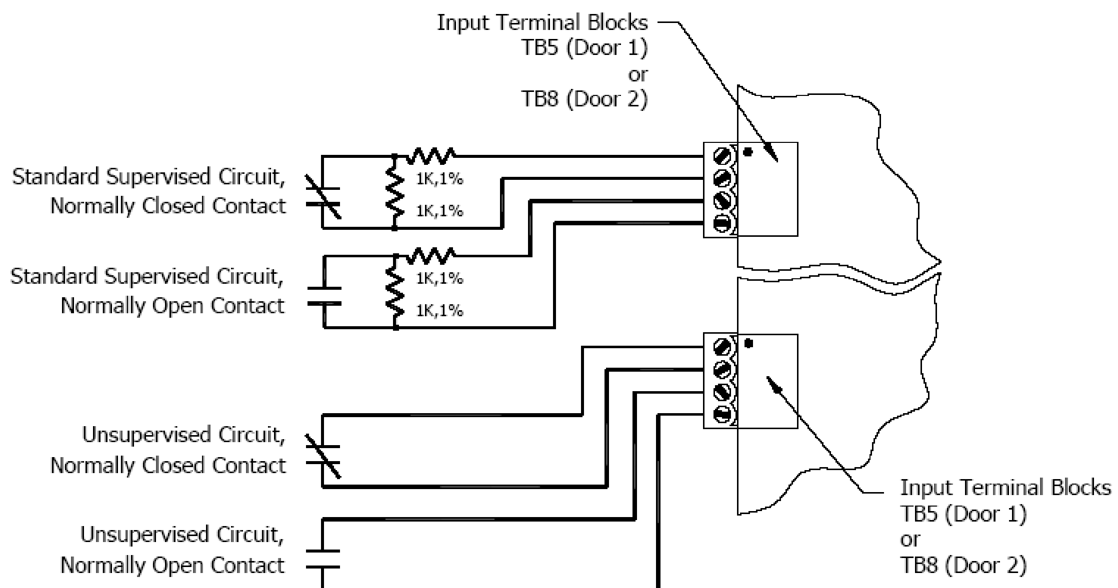
Each reader port supports Wiegand, magnetic stripe, and 2-Wire RS-485 electrical interfaces. Voltage at the reader port (VO) is passed-through from the input voltage of the AP-SPM (TB1-VIN) and is current limited to 300mA @ 77 °F (25 °C). Readers that require different voltage or have high current requirements should be powered separately.

Refer to the reader manufactures specifications for cabling requirements. In the 2-wire LED mode the Buzzer output in used to drive the second LED. Reader port configuration is set via the software.



8. Input Circuit Wiring:

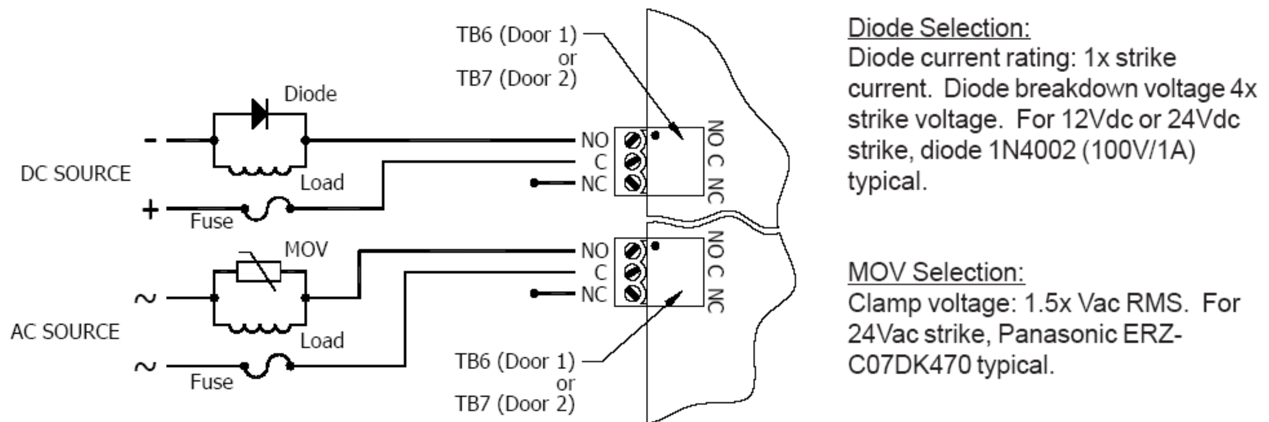
Typically, these inputs are used to monitor door sensors: door position and request to exit. Input circuits can be configured as unsupervised or supervised. When unsupervised, reporting consists of only the open or closed states. When configured as supervised, the input circuit will report not only open and closed, but also open circuit, shorted, grounded, and EOL Tolerance. This implementation exceeds the UL 294 Requirement for Class A Supervision. A supervised input circuit requires two resistors be added to the circuit to facilitate proper reporting. The standard supervised circuit requires 1K Ohm, 1% resistors and should be located as close to the sensor as possible. Custom EOL resistances may be configured via the software.



9. Relay Circuit Wiring:

Two relays are provided for controlling door lock mechanisms. The relay contacts are rated at 5A @ 30Vdc, dry contact configuration. Each relay has a Common pole (C), a Normally Open pole (NO) and a Normally Closed pole (NC). When you are controlling the delivery of power to the door strike, the Normally Open and Common poles are used.When you are momentarily removing power to unlock the door, as with a mag lock, the Normally Closed and Common poles are used. Check with local building codes for proper egress door installation.

Door lock mechanisms can generate feedback to the relay circuit that can cause damage and premature failure of the relay. For this reason, it is recommended that either a diode or MOV (metal oxide varistor) be used to protect the relay. Wire should be of sufficient gauge to avoid voltage loss.



10. Status LEDs:

Power-up: All LED's OFF.

Initialization: Once power is applied, initialization of the module begins.

Controller section:

A: One brief flash indicating that hardware initialization has begun.

B: RAM test: ON during RAM test.

C: ON if the RAM is cleared during RAM test.

End of initialization: A, B and C LEDs are ON for one second, and then turned OFF.

If any initialization tests fail, the watchdog timer will reset the processor and testing will repeat. The watchdog timer interval is one second.

Reader section:

The BOOT code will turn ON LED1 after the initialization of the registers is completed. If the BOOT code cannot complete the initialization, the watchdog timer will reset the module after about one second. If the BOOT code cannot launch the LOADER code: LED1 will be ON, LED2 will be OFF and LED3 will flash.

If the LOADER cannot launch the application code: LED1 will flash (heartbeat (off-line), see below), LED2 will display communication activity, and LED3 will be ON.

After hardware initialization is complete, LEDs 1 through 11 are sequenced at a 200mS rate.

Running: After the above sequence, the LEDs have the following meanings:

Controller section:

A: Task Monitor: Flashes erratically.

B: Host Communication Indicator: Flashing indicates host communication.

C: SIO Communication Indicator: Flashing indicates SIO communication.

Reader section:

LED1: Heartbeat and On-Line Status:

Off-line: 1 second rate, OFF for 90% (900mS) ON for 10% (100mS).

On-line: 1 second rate, OFF for 10% (100mS) ON for 90% (900mS).

LED2: SIO Communication Port Status: Indicates communication activity on the SIO communication port.

LED3: Not used, the LED is OFF.

LED4: Input Status for Door 1 input: IN1

LED5: Input Status for Door 1 input: IN2

LED6: Input Status for Door 2 input: IN3

LED7: Input Status for Door 2 input: IN4

Input in the inactive state: OFF. Input in the active state: ON. Input in a trouble state: Flash, (100mS: ON, 100mS: OFF).

LED8: Door 1 Reader/Keypad Signaling Configuration Indicator:

Clock/Data Mode: OFF Data 0/Data 1 Mode: ON

RS-485 Mode: Flashing (100mS: ON, 100mS: OFF)

LED9: Door 1 reader activity: Flashes whenever there is activity on either input signal (CLK/DAT).

LED10: Door 2 Reader/Keypad Signaling Configuration Indicator:

Clock/Data Mode: OFF

Data 0/Data 1 Mode: ON

RS-485 Mode: Flashing (100mS: ON, 100mS: OFF)

LED11: Door 2 reader activity: Flashes whenever there is activity on either input signal (CLK/DAT).

LED4 through LED8: Every 3 seconds the LED will change state for 50mS.

LED K1: Illuminates when output relay K1 (door 1) is energized.

LED K2: Illuminates when output relay K2 (door 2) is energized.

Technical Specifications – AP-SPM

** The processor is for use in low voltage, class 2 circuit only.

Primary power:

10-28Vdc, 300mA*

* Add: Reader power current, if passed-through

* Add: 150mA with CoBox-Micro

Memory and Clock Backup:

3Volt Lithium, type BR2325, BR2330 or CR2330

Data memory:

1MB

Ports:

Port 1 - RS-232 or RS-485: 2,400 to 38,400 bps, asynchronous, half-duplex, 1 start bit, 8 data bits, and 1 stop bit.

Ethernet: 10BaseT with optional Lantronix CoBox-Micro daughter board.

Port 2 - 2-wire RS-485, 2,400 to 38,400 bps, asynchronous, half-duplex, 1 start bit, 8 data bits, and 1 stop bit.

Inputs:

4 supervised, End of Line resistors, 1k/1k ohm standard

2 non-supervised, normally closed contacts for Tamper and power fault

Outputs:

2, Form-C, 5A @ 30Vdc, resistive.

Reader Interface:

Power:

Pass-through, current limited to 300mA @ 77 °F (25 °C) for each reader.

Data Inputs:

TTL compatible inputs, mag stripe and Wiegand standards supported.

RS-485 Mode: 9600 bps, asynchronous, half-duplex, 1 start bit, 8 data bits, and 1 stop bit.

LED Output:

TTL levels, high>3V, Low<0.5V, 5mA source/sink max.

Buzzer Output:

TTL levels, high>3V, Low<0.5V, Low=Active, 5mA source/sink max.

Wire requirement:

Power:

1 twisted pair, 18 AWG

RS-485:

24AWG, 4,000ft (1,200m) max., twisted pair(s) with shield.

RS-232:

24AWG, 25ft (7.6m) max.

Alarm input:

1 twisted pair per input

Environmental:

Temperature: 0 to 70 °C, operating, -55 to +85 °C, storage

Humidity: 0 to 95% RHNC

Mechanical:

Dimension: 5 in. (127mm) W x 7 in. (178mm) L x 1 in. (25mm) H

Specifications subject to change without notice:

The AP-SPM should only be used to control exits from areas where an alternative method for exit is available. This product is not intended for, nor is rated for operation in life-critical control applications. Digital Horizon Solutions, LLC is not liable under any circumstances for loss or damage caused by or partially caused by the misapplication or malfunction of the product. Digital Horizon Solutions, LLC's liability does not extend beyond the purchase price of the product.

Dual Door Module (AP-DDM)

Installation and Specifications:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



1. General:

The AP-DDM is a two reader interface module which can control two physical barriers. A reader port, two inputs for door position sensing and Request To Exit button, and a relay are available for each physical barrier. Each reader port can accommodate a readhead that utilizes Wiegand, magnetic stripe or 2-wire RS-485 electrical signaling standards, one or two wire LED controls, and buzzer control (one wire LED only). Inputs can be configured to meet Grade A Supervision requirements. The relay contacts are rated at 5A @ 30Vdc, dry contact configuration. It is recommended that the APDDM be mounted .25" minimum above any conductive surface.

2. Configuring the AP-DDM Hardware:

The AP-DDM hardware is configured with three jumpers (JP1, JP2 & JP3) and an eight position DIP switch (S1).

JP1, JP2 and JP3 Jumpers:

Install the RS-485 end of line (EOL) termination jumper only at the first and last units on the multi-drop communication bus.

JUMPER	SET AT	SELECTED
JP1	ON	Port 1 RS-485 EOL Terminator is Engaged
	OFF	Port 1 RS-485 EOL Terminator is Not Engaged
JP2	OFF	Not Used
JP3	OFF	Not Used

S1 DIP Switch:

Switches 1 to 5 select the device's communication address. Switches 6 and 7 select the communication baud rate.

S8	S7	S6	S5	S4	S3	S2	S1	SELECTION
			OFF	OFF	OFF	OFF	OFF	Address 0
			OFF	OFF	OFF	OFF	ON	Address 1
			OFF	OFF	OFF	ON	OFF	Address 2
			OFF	OFF	OFF	ON	ON	Address 3
			OFF	OFF	ON	OFF	OFF	Address 4
			OFF	OFF	ON	OFF	ON	Address 5
			OFF	OFF	ON	ON	OFF	Address 6
			OFF	OFF	ON	ON	ON	Address 7
			OFF	ON	OFF	OFF	OFF	Address 8
			OFF	ON	OFF	OFF	ON	Address 9
			OFF	ON	OFF	ON	OFF	Address 10
			OFF	ON	OFF	ON	ON	Address 11
			OFF	ON	ON	OFF	OFF	Address 12
			OFF	ON	ON	OFF	ON	Address 13
			OFF	ON	ON	ON	OFF	Address 14
			OFF	ON	ON	ON	ON	Address 15
			ON	OFF	OFF	OFF	OFF	Address 16
			ON	OFF	OFF	OFF	ON	Address 17
			ON	OFF	OFF	ON	OFF	Address 18
			ON	OFF	OFF	ON	ON	Address 19
			ON	OFF	ON	OFF	OFF	Address 20
			ON	OFF	ON	OFF	ON	Address 21
			ON	OFF	ON	ON	OFF	Address 22
			ON	OFF	ON	ON	ON	Address 23
			ON	ON	OFF	OFF	OFF	Address 24
			ON	ON	OFF	OFF	ON	Address 25
			ON	ON	OFF	ON	OFF	Address 26
			ON	ON	OFF	ON	ON	Address 27
			ON	ON	ON	OFF	OFF	Address 28
			ON	ON	ON	OFF	ON	Address 29
			ON	ON	ON	ON	OFF	Address 30
			ON	ON	ON	ON	ON	Address 31
	OFF	OFF						2,400 BPS
	OFF	ON						9,600 BPS
	ON	OFF						19,200 BPS
	ON	ON						38,400 BPS
OFF								Not Used

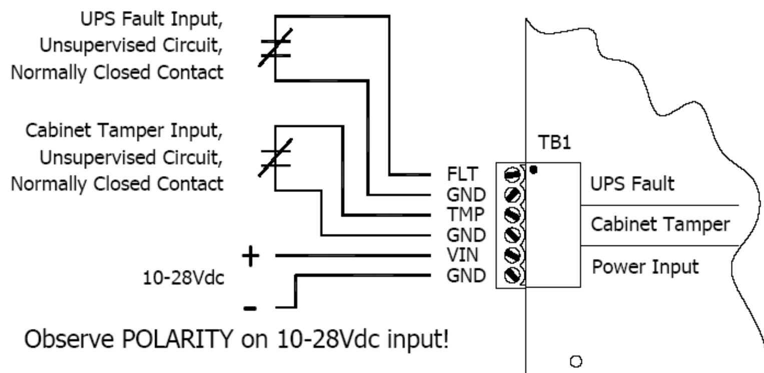
3. AP-DDM Wiring Connections:

		CONNECTION
TB1	1	UPS Fault: FLT: Input
	2	UPS Fault: GND: Ground
	3	Cabinet Tamper: TMP: Input
	4	Cabinet Tamper: GND: Ground
	5	Power: VIN: Power Input (10 - 28Vdc)
	6	Power: GND: Ground
TB2	1	Port: RS485-1: TR+
	2	Port: RS485-1: TR-
	3	Port: RS485-1: Ground
TB3	1	Reader 1: VO - Reader Power
	2	Reader 1: LED - Reader LED
	3	Reader 1: BZR - Reader Buzzer
	4	Reader 1: CLK - Clock/Data 1/TR+
	5	Reader 1: DAT - Data/Data 0/TR-
	6	Reader 1: GND - Ground
TB4	1	Input 1: IN1
	2	Input 1: IN1
	3	Input 2: IN2
	4	Input 2: IN2
TB5	1	Relay 1: NO - Normally Open Contact
	2	Relay 1: C - Common
	3	Relay 1: NC - Normally Closed Contact
TB6	1	Relay 2: NO - Normally Open Contact
	2	Relay 2: C - Common
	3	Relay 2: NC - Normally Closed Contact
TB7	1	Input 3: IN3
	2	Input 3: IN3
	3	Input 4: IN4
	4	Input 4: IN4
TB8	1	Reader 2: VO - Reader Power
	2	Reader 2: LED - Reader LED
	3	Reader 2: BZR - Reader Buzzer
	4	Reader 2: CLK - Clock/Data 1/TR+
	5	Reader 2: DAT - Data/Data 0/TR-
	6	Reader 2: GND - Ground

4. Input Power, Cabinet Tamper and UPS Fault Input Wiring:

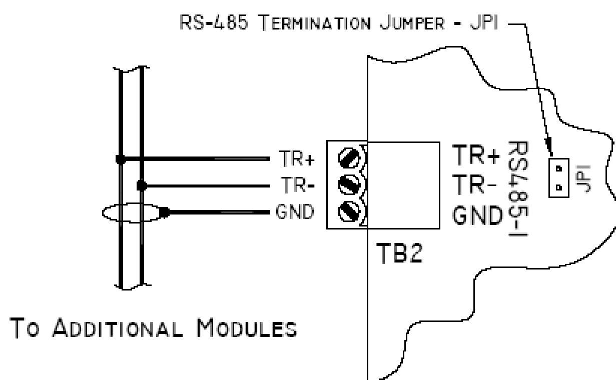
The AP-DDM requires 10-28Vdc power. Locate power source as closed to the unit as possible. Connect power with minimum of 18AWG wires. **Observe POLARITY on 10-28Vdc input!**

There are two dedicated inputs for cabinet tamper (TMP) and UPS fault monitoring (FLT). Normal (safe) condition is closed contact. If these inputs are not used, install a jumper wire.

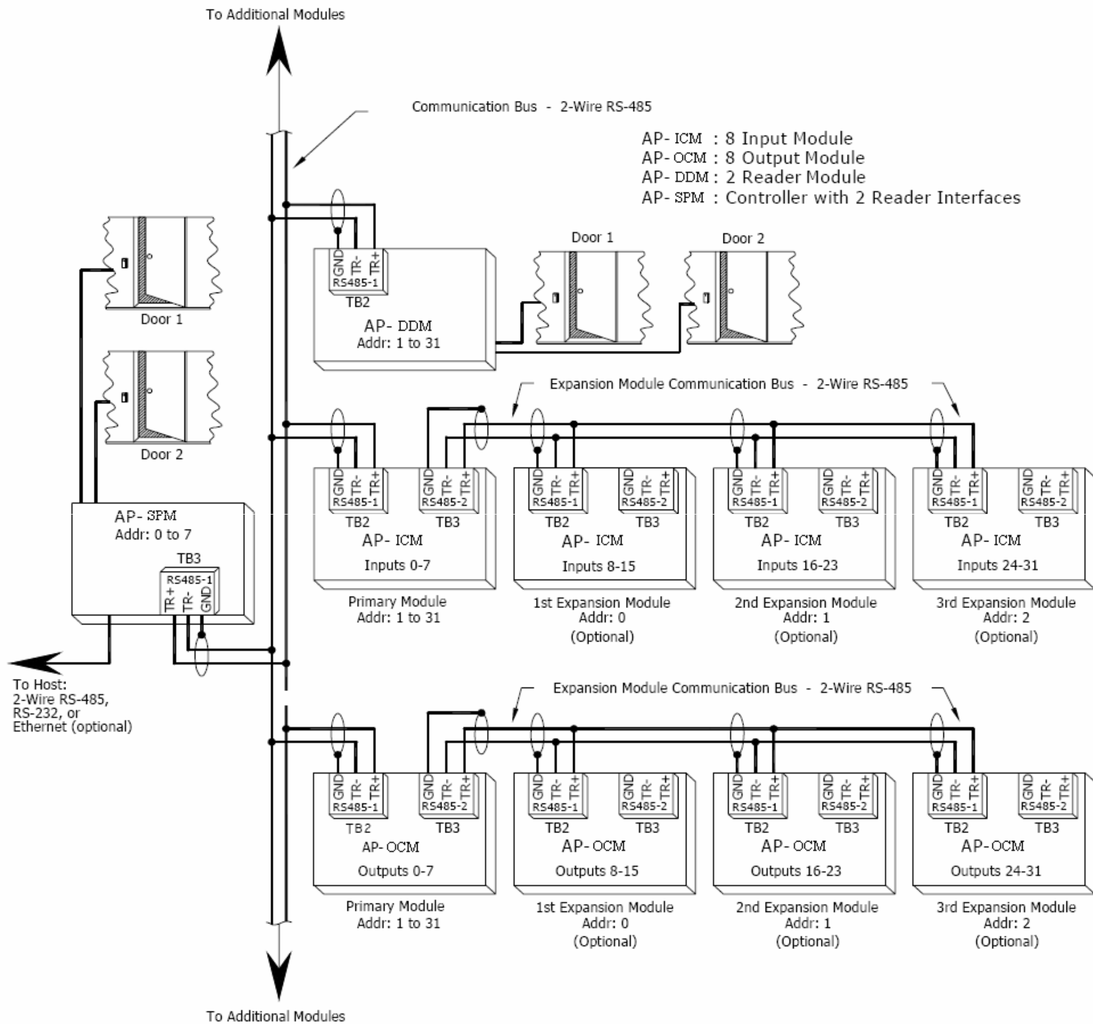


5. Communication Wiring:

The AP-DDM communicates with the AP-SPM controller via a 2-wire RS-485 interface, port RS485-1. The interface allows multi-drop communication on a single bus of up to 4,000 feet (1,200 m). Use twisted pair(s) (minimum 24 AWG) with an overall shield.



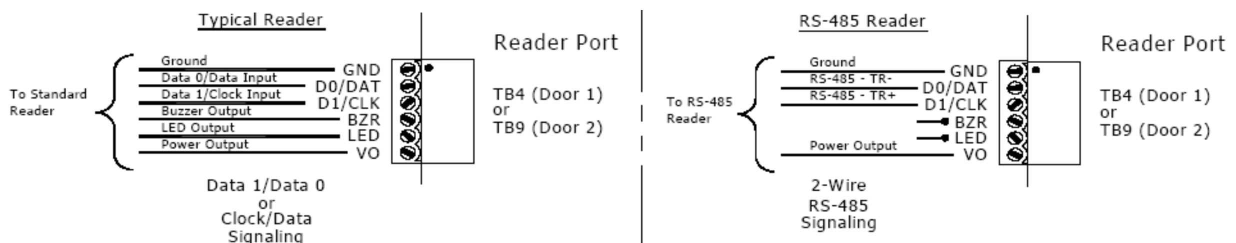
Communication Port 1
Multi-drop 2-wire RS-485



6. Reader Wiring:

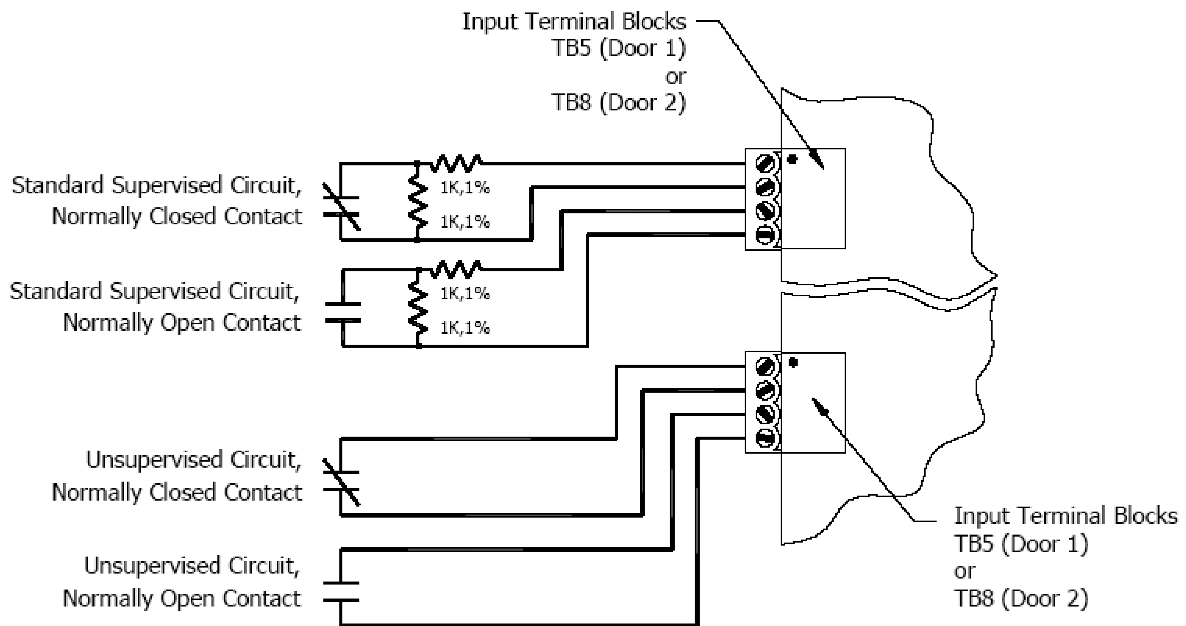
Each reader port supports wiegand, magnetic stripe, and 2-Wire RS-485 electrical interfaces. Voltage at the reader port (VO) is passed-through from the input voltage of the AP-DDM (TB1-VIN) and is current limited to 300mA @ 77 °F (25 °C). Readers that require different voltage or have high current requirements should be powered separately.

Refer to the reader manufactures specifications for cabling requirements. In the 2-wire LED mode the Buzzer output in used to drive the second LED. Reader port configuration is set via the host software.



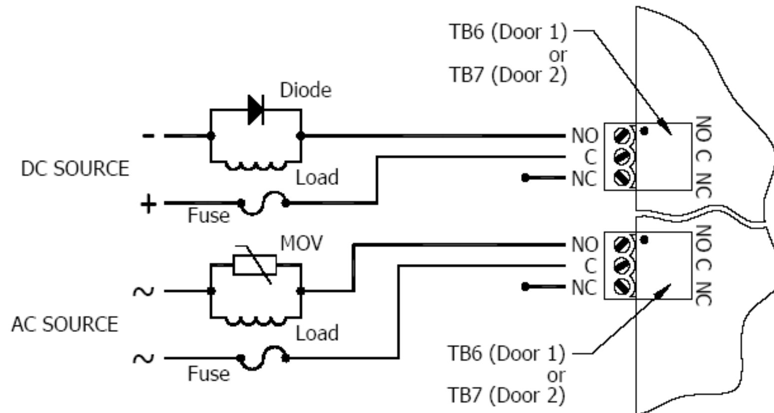
7. Input Circuit Wiring:

Typically, these inputs are used to monitor door sensors: door position and request to exit. Input circuits can be configured as unsupervised or supervised. When unsupervised, reporting consists of only the open or closed states. When configured as supervised, the input circuit will report not only open and closed, but also open circuit, shorted, grounded, and EOL Tolerance. This implementation exceeds the UL 294 Requirement for Class A Supervision. A supervised input circuit requires two resistors be added to the circuit to facilitate proper reporting. The standard supervised circuit requires 1K Ohm, 1% resistors and should be located as close to the sensor as possible. Custom EOL resistances may be configured via the software.



8. Relay Circuit Wiring:

Two relays are provided for controlling door lock mechanisms. The relay contacts are rated at 5A @ 30Vdc, dry contact configuration. Each relay has a Common pole (C), a Normally Open pole (NO) and a Normally Closed pole (NC). When you are controlling the delivery of power to the door strike, the Normally Open and Common poles are used.When you are momentarily removing power to unlock the door, as with a mag lock, the Normally Closed and Common poles are used. Check with local building codes for proper egress door installation. Door lock mechanisms can generate feedback to the relay circuit that can cause damage and premature failure of the relay. For this reason, it is recommended that either a diode or MOV (metal oxide varistor) be used to protect the relay. Wire should be of sufficient gauge to avoid voltage loss.



Diode Selection:
Diode current rating: 1x strike current. Diode breakdown voltage 4x strike voltage. For 12Vdc or 24Vdc strike, diode 1N4002 (100V/1A) typical.

MOV Selection:
Clamp voltage: 1.5x Vac RMS. For 24Vac strike, Panasonic ERZ-C07DK470 typical.

9. Status LEDs:

Power-up: All LED’s OFF.

Initialization: Once power is applied, initialization of the module begins.

The BOOT code will turn ON LED1 after the initialization of the registers is completed. If the BOOT code cannot complete the initialization, the watchdog timer will reset the module after about one second.

If the BOOT code cannot launch the LOADER code: LED1 will be ON, LED2 will be OFF and LED3 will flash.

If the LOADER cannot launch the application code: LED1 will flash (heartbeat (off-line), see below), LED2 will display communication activity, and LED3 will be ON.

After hardware initialization is complete, LEDs 1 through 11 are sequenced at a 200mS rate.

Running: After the above sequence, the LEDs have the following meanings:

LED1: Heartbeat and On-Line Status:

Off-line: 1 second rate, OFF for 90% (900mS) ON for 10% (100mS).

On-line: 1 second rate, OFF for 10% (100mS) ON for 90% (900mS).

LED2: SIO Communication Port Status:

Indicate communication activity on the SIO communication port.

LED3: Not used, the LED is OFF.

LED4: Input Status for Door 1 input: IN1

LED5: Input Status for Door 1 input: IN2

LED6: Input Status for Door 2 input: IN3

LED7: Input Status for Door 2 input: IN4:

Input in the inactive state: OFF

Input in the active state: ON.

Input in a trouble state: Flash, (100mS: ON, 100mS: OFF).

LED8: Door 1 Reader/Keypad Signaling Configuration Indicator:

Clock/Data Mode: OFF

Data 0/Data 1 Mode: ON

RS-485 Mode: Flashing (100mS: ON, 100mS: OFF)

LED9: Door 1 reader activity:

Flashe whenever there is activity on either input signal (CLK/DAT).

LED10: Door 2 Reader/Keypad Signaling Configuration Indicator:

Clock/Data Mode: OFF

Data 0/Data 1 Mode: ON

RS-485 Mode: Flashing (100mS: ON, 100mS: OFF)

LED11: Door 2 reader activity:

Flashe whenever there is activity on either input signal (CLK/DAT).

LED4 through LED8:

Every 3 seconds the LED will change state for 50mS.

LED K1: Illuminates when output relay K1 (door 1) is energized.

LED K2: Illuminates when output relay K2 (door 2) is energized.

Technical Specifications – AP-DDM

** The processor is for use in low voltage, class 2 circuit only.

Primary power:

10-28Vdc, 225mA*

* Add: Reader power current, if passed-through.

Ports:

2-wire RS-485 serial port: asynchronous, half-duplex, 1 start bit, 8 data bits, and 1 stop bit. Baud rate is switch selectable: 2400 to 38400 BPS. If modems and/or drivers are used, fast data turnaround times are required.

Inputs:

4 supervised, End of Line resistors, 1k/1k ohm standard

2 non-supervised, normally closed contacts for Tamper and power fault

Outputs:

2, Form-C, 5A @ 30Vdc, resistive.

Reader Interface:

Power: Pass-through, current limited to 300mA @ 77 °F (25 °C) for each reader.

Data Inputs: TTL compatible inputs, mag stripe and Wiegand standards supported.

RS-485 Mode: 9600 bps, asynchronous, half-duplex, 1 start bit, 8 data bits, and 1 stop bit.

LED Output: TTL levels, high>3V, Low<0.5V, 5mA source/sink max.

Buzzer Output: TTL levels, high>3V, Low<0.5V, Low=Active, 5mA source/sink max.

Wire requirements:

Power: 1 twisted pair, 18AWG

RS-485: 24AWG, 4,000feet (1,200m) max., twisted pair(s) with shield

Alarm inputs: 1 twisted pair per input

Outputs: as required for the load

Reader: 6 conductors, 18AWG, 500 feet (150m) max.

Mechanical:

Dimension - 4" (102mm)W x 7" (178mm)L x 1" (25mm)H

Environment:

Temperature - -55°C to +85°C, storage 0°C to +70°C, operating

Humidity - 0% to 95% RHNC

Specifications subject to change without notice:

The AP-DDM should only be used to control exits from areas where an alternative method for exit is available. This product is not intended for, nor is rated for operation in life-critical control applications. Digital Horizon Solutions, LLC is not liable under any circumstances for loss or damage caused by or partially caused by the misapplication or malfunction of the product. Digital Horizon Solutions, LLC's liability does not extend beyond the purchase price of the product.

Input Control Module (AP-ICM) Input Interface

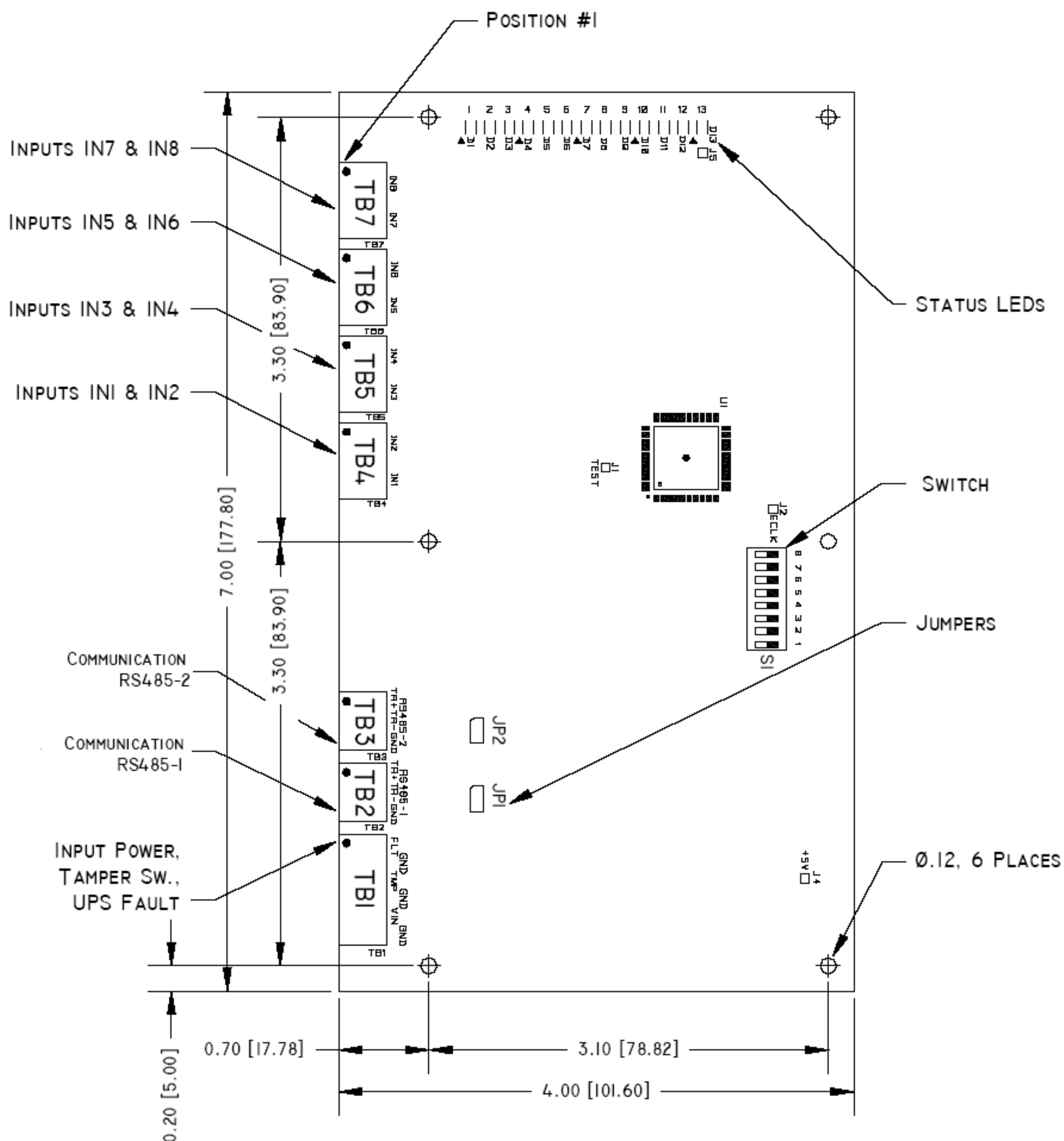
Installation and Specifications:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



1. General:

The AP-ICM, Eight Input Module, provides sensor interface for system integrators in security/access control and other applications. The controller has 8 input channels for supervised contact monitoring. In addition, 2 unsupervised inputs may be used for cabinet tamper and UPS fault monitoring. The AP- ICM requires 10-28Vdc for power. It is recommended that the AP-ICM be mounted .25" minimum above any conductive surface.



2. Configuring the AP-ICM Hardware:

The AP-ICM hardware is configured with two jumpers (JP1 & JP2) and an eight position DIP switch (S1). JP1 and JP2 Jumpers: Install the RS-485 end of line (EOL) termination jumper only at the first and last units on the multi-drop communication bus.

JUMPER	SET AT	SELECTED
JP1	ON	Port 1 RS-485 EOL Terminator is Engaged
	OFF	Port 1 RS-485 EOL Terminator is Not Engaged
JP2	ON	Port 2 RS-485 EOL Terminator is Engaged
	OFF	Port 2 RS-485 EOL Terminator is Not Engaged

S1 DIP Switch:

Switches 1 to 5 select the device's communication address. Switches 6 and 7 select the communication baud rate.

S8	S7	S6	S5	S4	S3	S2	S1	SELECTION
			OFF	OFF	OFF	OFF	OFF	Address 0
			OFF	OFF	OFF	OFF	ON	Address 1
			OFF	OFF	OFF	ON	OFF	Address 2
			OFF	OFF	OFF	ON	ON	Address 3
			OFF	OFF	ON	OFF	OFF	Address 4
			OFF	OFF	ON	OFF	ON	Address 5
			OFF	OFF	ON	ON	OFF	Address 6
			OFF	OFF	ON	ON	ON	Address 7
			OFF	ON	OFF	OFF	OFF	Address 8
			OFF	ON	OFF	OFF	ON	Address 9
			OFF	ON	OFF	ON	OFF	Address 10
			OFF	ON	OFF	ON	ON	Address 11
			OFF	ON	ON	OFF	OFF	Address 12
			OFF	ON	ON	OFF	ON	Address 13
			OFF	ON	ON	ON	OFF	Address 14
			OFF	ON	ON	ON	ON	Address 15
			ON	OFF	OFF	OFF	OFF	Address 16
			ON	OFF	OFF	OFF	ON	Address 17
			ON	OFF	OFF	ON	OFF	Address 18
			ON	OFF	OFF	ON	ON	Address 19
			ON	OFF	ON	OFF	OFF	Address 20
			ON	OFF	ON	OFF	ON	Address 21
			ON	OFF	ON	ON	OFF	Address 22
			ON	OFF	ON	ON	ON	Address 23
			ON	ON	OFF	OFF	OFF	Address 24
			ON	ON	OFF	OFF	ON	Address 25
			ON	ON	OFF	ON	OFF	Address 26
			ON	ON	OFF	ON	ON	Address 27
			ON	ON	ON	OFF	OFF	Address 28
			ON	ON	ON	OFF	ON	Address 29
			ON	ON	ON	ON	OFF	Address 30
			ON	ON	ON	ON	ON	Address 31
	OFF	OFF						2,400 BPS
	OFF	ON						9,600 BPS
	ON	OFF						19,200 BPS
	ON	ON						38,400 BPS
OFF								Not Used

3. AP-ICM Wiring Connections:

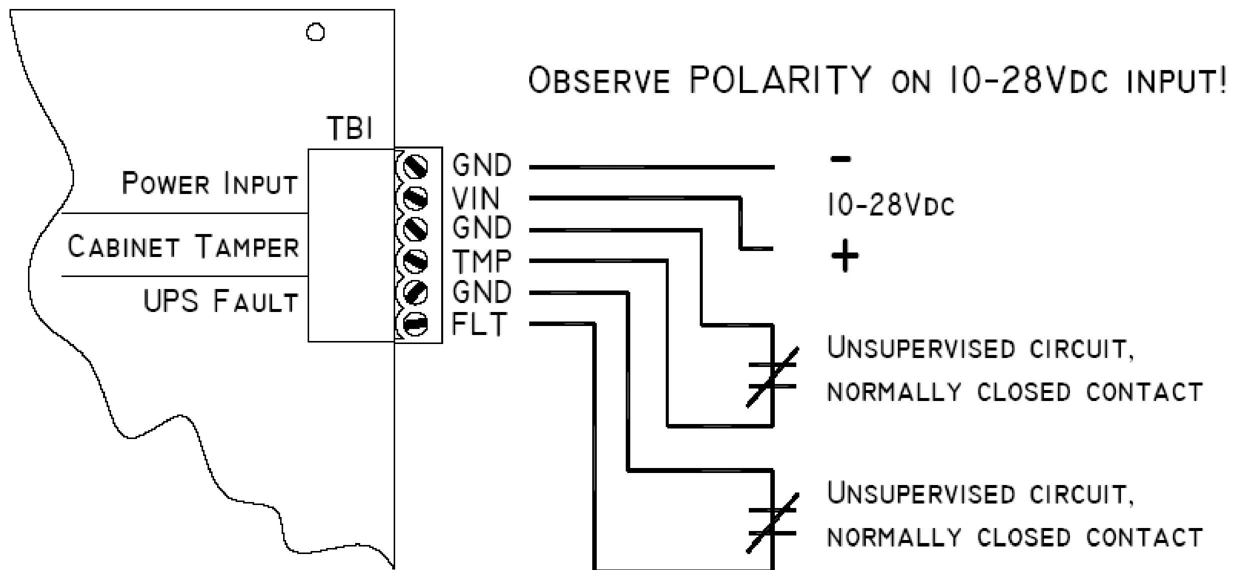
		CONNECTION
TB1	1	UPS Fault: FLT: Input
	2	UPS Fault: GND: Ground
	3	Cabinet Tamper: TMP: Input
	4	Cabinet Tamper: GND: Ground
	5	Power: VIN: Power Input (10 - 28Vdc)
	6	Power: GND: Ground
TB2	1	Port 1: RS485-1: TR+
	2	Port 1: RS485-1: TR-
	3	Port 1: RS485-1: Ground
TB3	1	Port 2: RS485-2: TR+
	2	Port 2: RS485-2: TR-
	3	Port 2: RS485-2: Ground
TB4	1	Input 2: IN2
	2	Input 2: IN2
	3	Input 1: IN1
	4	Input 1: IN1
TB5	1	Input 4: IN4
	2	Input 4: IN4
	3	Input 3: IN3
	4	Input 3: IN3
TB6	1	Input 6: IN6
	2	Input 6: IN6
	3	Input 5: IN5
	4	Input 5: IN5
TB7	1	Input 8: IN8
	2	Input 8: IN8
	3	Input 7: IN7
	4	Input 7: IN7

4. Input Power, Tamper and UPS Fault Input Wiring:

The AP-ICM requires 10-28Vdc power. Locate power source as closed to the unit as possible. Connect power with minimum of 18AWG wires.

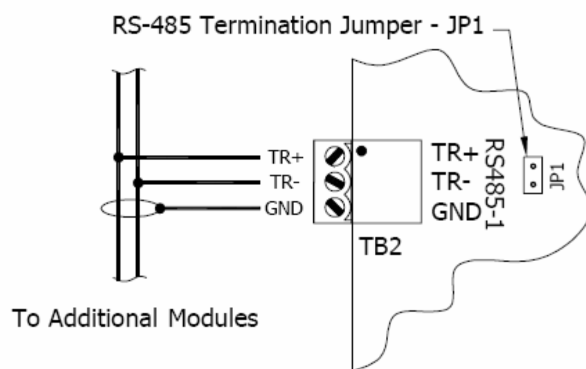
Observe POLARITY on 10- 28Vdc input!

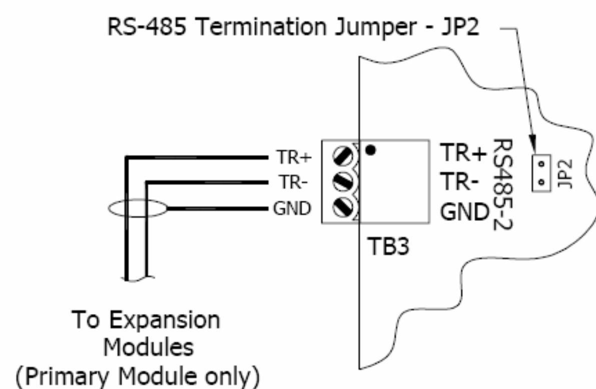
There are two dedicated inputs for cabinet tamper(TMP) and UPS fault monitoring (FLT). Normal (safe) condition is closed contact. If these inputs are not used, install a jumper wire.

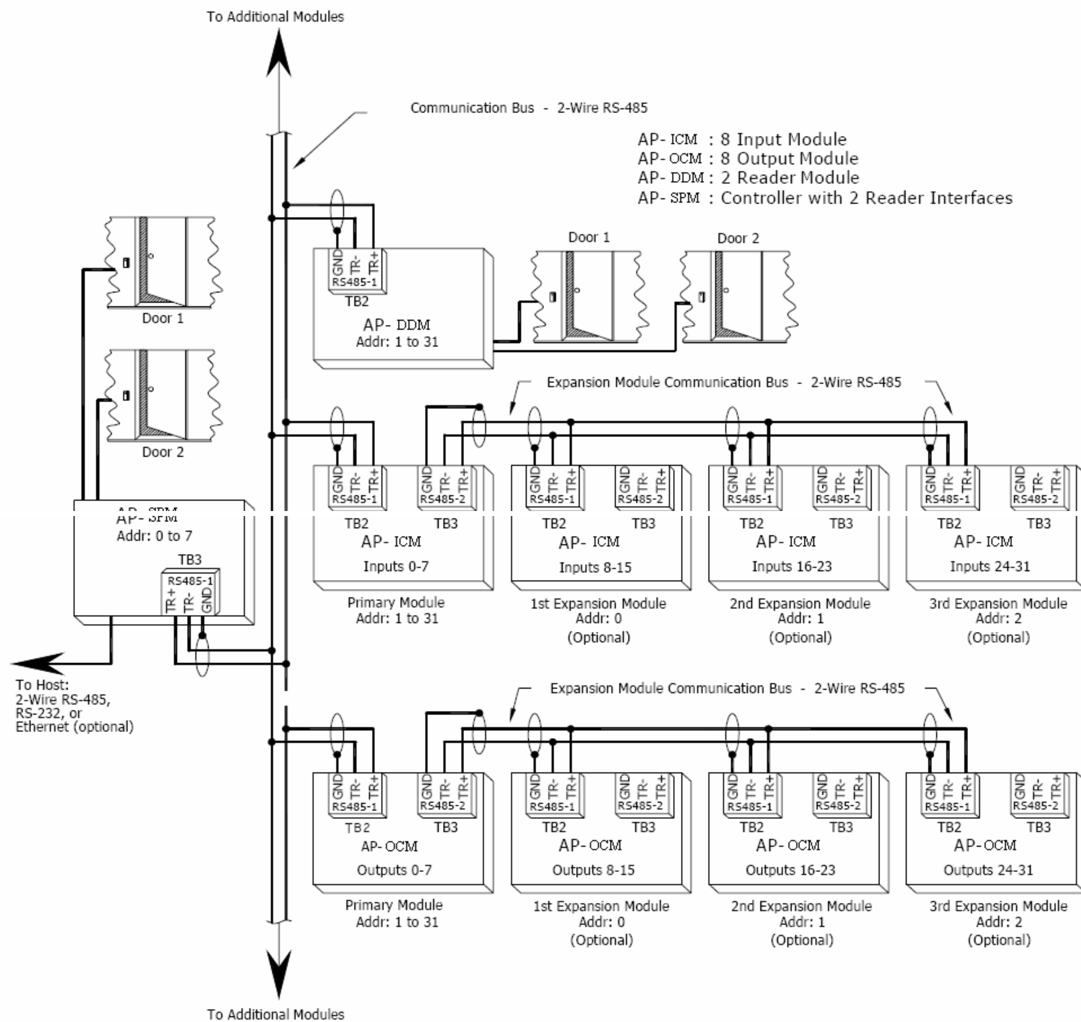


5. Communication Wiring:

The AP-ICM communicates with the AP-SPM controller via a 2-wire RS-485 interface, port RS485-1. The interface allows multi-drop communication on a single bus of up to 4,000 feet (1,200 m). Use twisted pair(s) (minimum 24 AWG) with an overall shield.

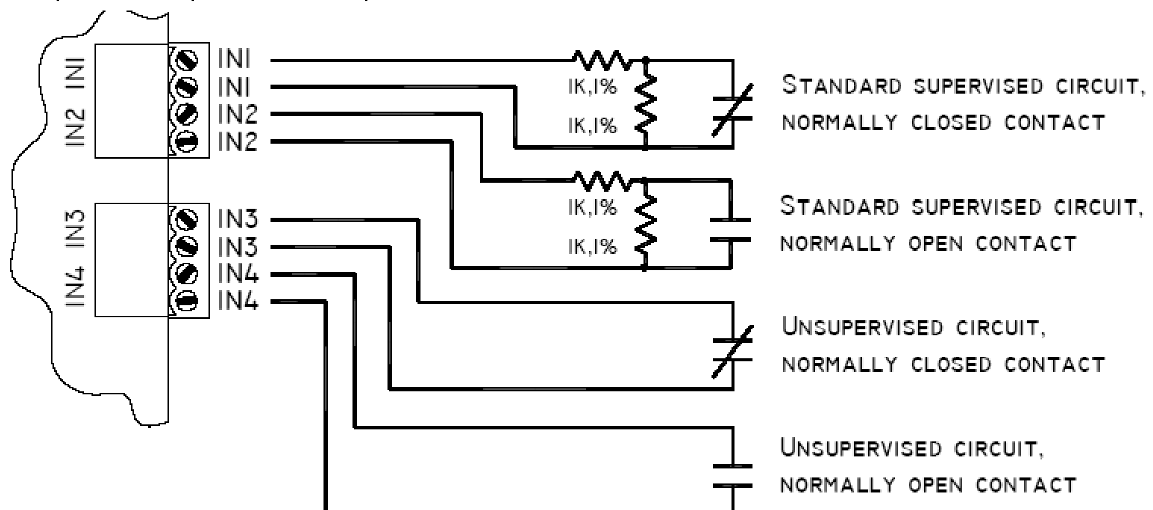






6. Alarm Input Wiring:

Inputs IN1 to IN8 may be configured to use normally open or normally closed contacts. EOL resistors are optional if supervision is required.



7. Status LED Definitions:

Power-up:

All LED's OFF

Initialization: Once power is applied, initialization of the module is started.

The BOOT code will turn ON LED1 after the initialization of the registers is completed.

If the BOOT code cannot complete the initialization, the watchdog timer will reset the module after about one second.

If the BOOT code cannot launch the LOADER code: LED1 will be ON, LED2 will be OFF and LED3 will flash.

If the LOADER cannot launch the application code: LED1 will flash (heartbeat (off-line), see below), LED2 will display communication activity, and LED3 will be ON.

After initialization is complete, LEDs 1 through 13 are sequenced at a 200mS rate.

Running: After the above sequence, the LEDs have the following meanings:

LED1: Heartbeat and On-Line Status:

Off-line: 1 second rate, OFF for 90% (900mS) ON for 10% (100mS).

On-line: 1 second rate, OFF for 10% (100mS) ON for 90% (900mS).

LED2: SIO Communication Port 1 Status (TB2: RS485-1):

Indicate communication activity on SIO communication port 1.

LED3: SIO Communication Port 2 Status (TB3: RS485-2):

Not supported, the LED is OFF.

LED4 through **LED11:**

Input zone status, input IN1 through input IN8, respectively:

Input in the inactive state: OFF.

Input in the active state: ON.

Input in a trouble state: flash, (100mS: ON, 100mS: OFF).

LED12: Cabinet Tamper Switch:

OFF: No cabinet tamper (switch closed).

ON: Cabinet tamper (switch open).

LED13: UPS Fault Monitor:

OFF: No UPS Fault (switch closed).

ON: UPS Fault (switch open).

LED4 through **LED13:**

Every 3 seconds the LED will change state for 50mS, only if the input is configured.The LED is always OFF when the input is not configured.

8. Technical Specifications – AP-ICM

** The processor is for use in low voltage, class 2 circuit only.

Primary power:

10-28Vdc, 125mA

Ports:

2-wire RS-485 serial port: asynchronous, half-duplex, 1 start bit, 8 data bits, and 1stop bit. Baud rate is switch selectable: 2400 to 38400 BPS. If modems and/ordrivers are used, fast data turnaround times are required.

Outputs:

None

Inputs:

2 unsupervised, for local cabinet tamper and UPS fault monitoring.

8 unsupervised/supervised, standard EOL: 1K Ohm/1K Ohm. Four custom EOL's are available (software dependent).

Communication:

RS-485, 2-wire, 2,400 to 38,400bps

Wire requirement:

Power: 1 twisted pair, 18 AWG

RS-485: 24AWG, 4,000ft (1,200m) max., twisted pair(s) with shield.

Alarm inputs:

1 twisted pair per input

Environmental:

Temperature: 0 to 70 °C, operating-55 to +85 °C, storage

Humidity: 0 to 95% RHNC

Mechanical:

Dimension - 4" (102mm)W x 7" (178mm)L x 1" (25mm)H

Specifications subject to change without notice.

Output Control Module (AP-OCM) Output Interface

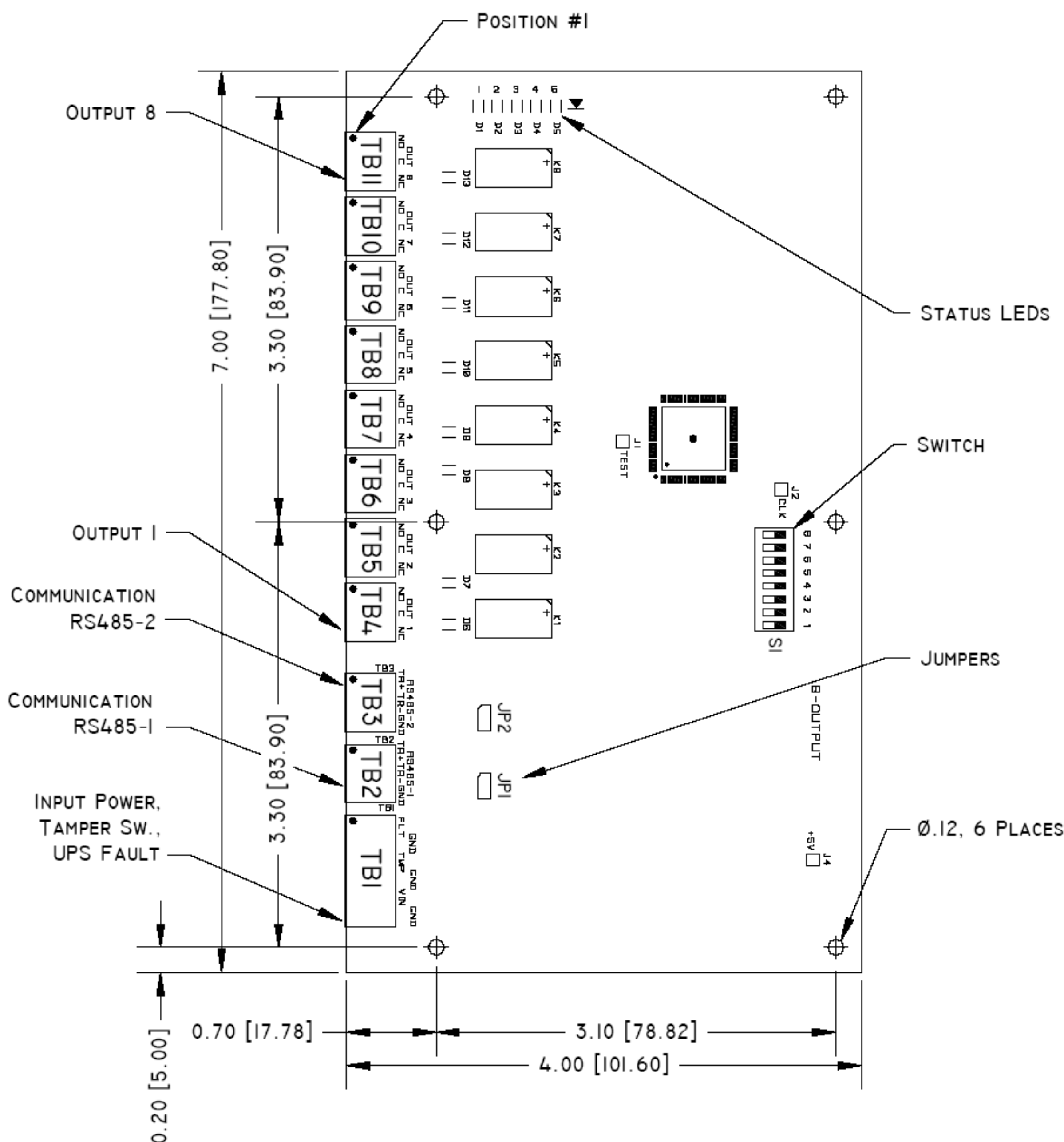
Installation and Specifications:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



1. General:

The AP-OCM, Eight Output Module, provides output controls for system integrators in security/access control and other applications. The controller has 8 form-C contacts for load switching, rated at 2A @ 30Vdc, dry contact configuration. In addition, 2 unsupervised inputs may be used for cabinet tamper and UPS fault monitoring. The APOCM requires 10-28Vdc for power. It is recommended that the AP-OCM be mounted .25" minimum above any conductive surface.



2. Configuring the AP-OCM Hardware:

The AP-OCM hardware is configured with two jumpers (JP1 & JP2) and an eight position DIP switch (S1).

JP1 and JP2 Jumpers:

Install the RS-485 end of line (EOL) termination jumper only at the first and last units on the multi-drop communication bus.

JUMPER	SET AT	SELECTED
JP1	ON	Port 1 RS-485 EOL Terminator is Engaged
	OFF	Port 1 RS-485 EOL Terminator is Not Engaged
JP2	ON	Port 2 RS-485 EOL Terminator is Engaged
	OFF	Port 2 RS-485 EOL Terminator is Not Engaged

S1 DIP Switch:

Switches 1 to 5 select the device's communication address. Switches 6 and 7 select the communication baud rate.

S8	S7	S6	S5	S4	S3	S2	S1	SELECTION
			OFF	OFF	OFF	OFF	OFF	Address 0
			OFF	OFF	OFF	OFF	ON	Address 1
			OFF	OFF	OFF	ON	OFF	Address 2
			OFF	OFF	OFF	ON	ON	Address 3
			OFF	OFF	ON	OFF	OFF	Address 4
			OFF	OFF	ON	OFF	ON	Address 5
			OFF	OFF	ON	ON	OFF	Address 6
			OFF	OFF	ON	ON	ON	Address 7
			OFF	ON	OFF	OFF	OFF	Address 8
			OFF	ON	OFF	OFF	ON	Address 9
			OFF	ON	OFF	ON	OFF	Address 10
			OFF	ON	OFF	ON	ON	Address 11
			OFF	ON	ON	OFF	OFF	Address 12
			OFF	ON	ON	OFF	ON	Address 13
			OFF	ON	ON	ON	OFF	Address 14
			OFF	ON	ON	ON	ON	Address 15
			ON	OFF	OFF	OFF	OFF	Address 16
			ON	OFF	OFF	OFF	ON	Address 17
			ON	OFF	OFF	ON	OFF	Address 18
			ON	OFF	OFF	ON	ON	Address 19
			ON	OFF	ON	OFF	OFF	Address 20
			ON	OFF	ON	OFF	ON	Address 21
			ON	OFF	ON	ON	OFF	Address 22
			ON	OFF	ON	ON	ON	Address 23
			ON	ON	OFF	OFF	OFF	Address 24
			ON	ON	OFF	OFF	ON	Address 25
			ON	ON	OFF	ON	OFF	Address 26
			ON	ON	OFF	ON	ON	Address 27
			ON	ON	ON	OFF	OFF	Address 28
			ON	ON	ON	OFF	ON	Address 29
			ON	ON	ON	ON	OFF	Address 30
			ON	ON	ON	ON	ON	Address 31
	OFF	OFF						2,400 BPS
	OFF	ON						9,600 BPS
	ON	OFF						19,200 BPS
	ON	ON						38,400 BPS
OFF								Not Used

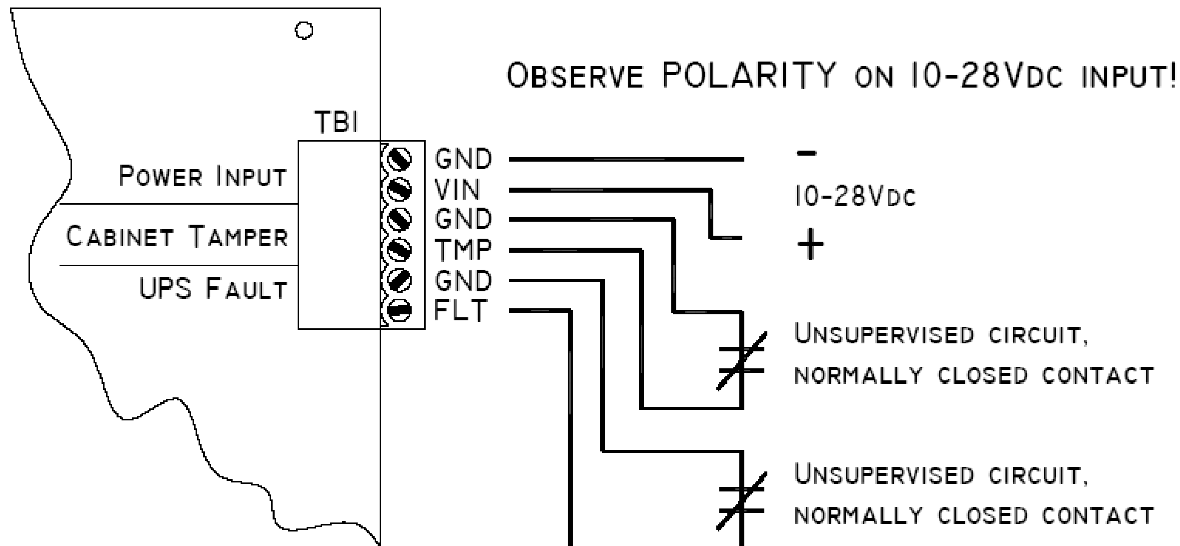
3. AP-OCM Wiring Connections:

		CONNECTION
TB1	1	UPS Fault: FLT: Input
	2	UPS Fault: GND: Ground
	3	Cabinet Tamper: TMP: Input
	4	Cabinet Tamper: GND: Ground
	5	Power: VIN: Power Input (10 - 28Vdc)
	6	Power: GND: Ground
TB2	1	Port 1: RS485-1: TR+
	2	Port 1: RS485-1: TR-
	3	Port 1: RS485-1: Ground
TB3	1	Port 2: RS485-2: TR+
	2	Port 2: RS485-2: TR-
	3	Port 2: RS485-2: Ground
TB4	1	Relay 1: NO - Normally Open Contact
	2	Relay 1: C - Common
	3	Relay 1: NC - Normally Closed Contact
TB5	1	Relay 2: NO - Normally Open Contact
	2	Relay 2: C - Common
	3	Relay 2: NC - Normally Closed Contact
TB6	1	Relay 3: NO - Normally Open Contact
	2	Relay 3: C - Common
	3	Relay 3: NC - Normally Closed Contact
TB7	1	Relay 4: NO - Normally Open Contact
	2	Relay 4: C - Common
	3	Relay 4: NC - Normally Closed Contact
TB8	1	Relay 5: NO - Normally Open Contact
	2	Relay 5: C - Common
	3	Relay 5: NC - Normally Closed Contact
TB9	1	Relay 6: NO - Normally Open Contact
	2	Relay 6: C - Common
	3	Relay 6: NC - Normally Closed Contact
TB10	1	Relay 7: NO - Normally Open Contact
	2	Relay 7: C - Common
	3	Relay 7: NC - Normally Closed Contact
TB11	1	Relay 8: NO - Normally Open Contact
	2	Relay 8: C - Common
	3	Relay 8: NC - Normally Closed Contact

4. Input Power, Cabinet Tamper and UPS Fault Input Wiring:

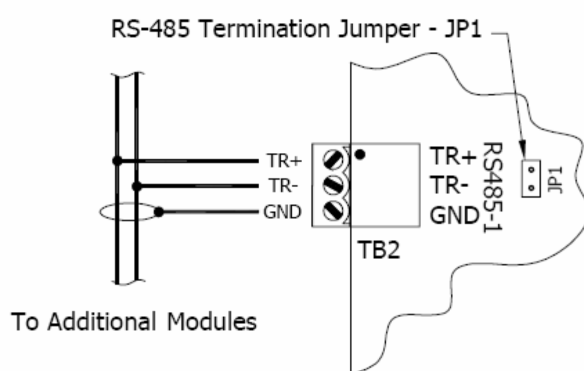
The AP-OCM requires 10-28Vdc power. Locate power source as closed to the unit as possible. Connect power with minimum of 18AWG wires. Observe POLARITY on 10-28Vdc input!

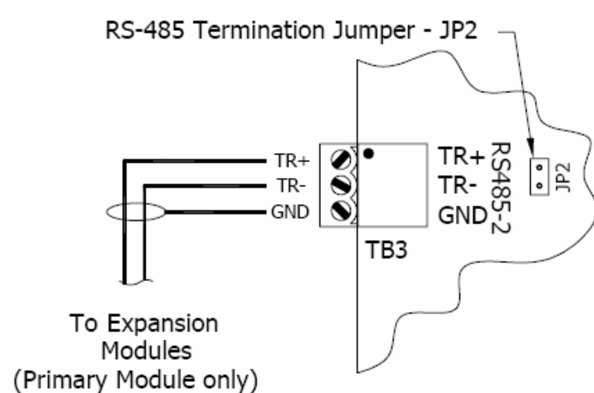
There are two dedicated inputs for cabinet tamper (TMP) and UPS fault monitoring (FLT). Normal (safe) condition is closed contact. If these input are not used, install a jumper wire.

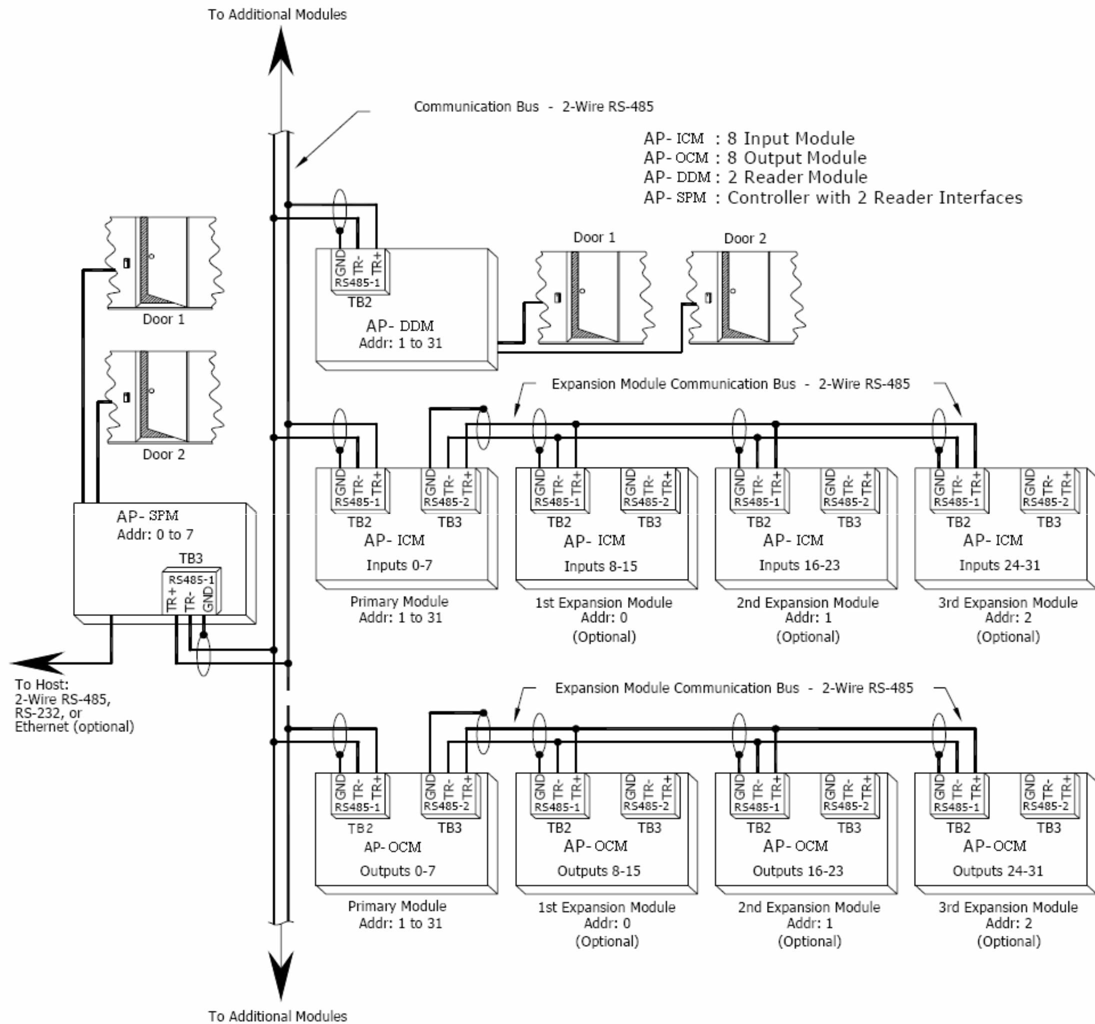


5. Communication Wiring:

The AP-OCM communicates with the AP-SPM controller via a 2-wire RS-485 interface, port RS485-1. The interface allows multi-drop communication on a single bus of up to 4,000 feet (1,200 m). Use twisted pair(s) (minimum 24 AWG) with an overall shield.

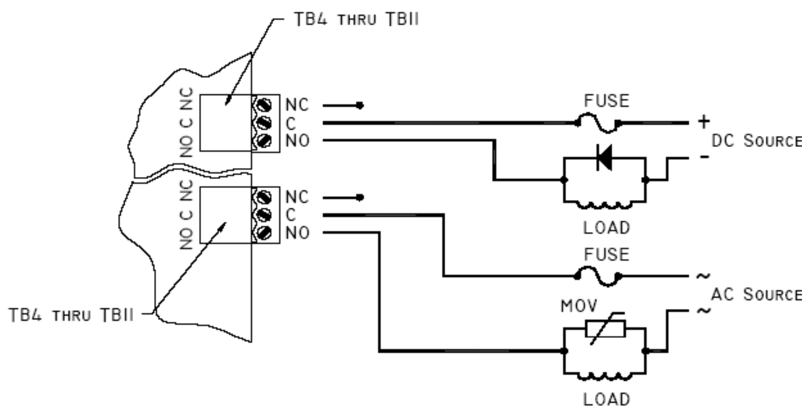






6. Relay Outputs:

The following show typical use of the relay outputs. DC source is recommended whenever it is possible. Transient voltage clamping must be provided to protect the contact and to reduce EMI emission. Use sufficiently large wires for the load current to avoid voltage loss. The relay contacts are rated at 2A @ 30Vdc, dry contact configuration.



Diode Selection:
Diode current rating: 1x strike current. Diode breakdown voltage 4x strike voltage. For 12Vdc or 24Vdc strike, diode 1N4002 (100V/1A) typical.

MOV Selection:
Clamp voltage: 1.5x Vsc RMS. For 24Vac strike, Panasonic ERZ-C07DK470 typical.

7. Status LED Definitions:

Power-up: All LED's OFF

Initialization: Once power is applied, initialization of the module is started.

The BOOT code will turn ON LED1 after the initialization of the registers is completed.

If the BOOT code cannot complete the initialization, the watchdog timer will reset the module after about one second.

If the BOOT code cannot launch the LOADER code: LED1 will be ON, LED2 will be OFF and LED3 will flash.

If the LOADER cannot launch the application code: LED1 will flash (heartbeat (off-line), see below), LED2 will display communication activity, and LED3 will be ON.

After initialization is complete, LEDs 1 through 13 are sequenced at a 200mS rate.

Running: After the above sequence, the LEDs have the following meanings:

LED1: Heartbeat and On-Line Status:

Off-line: 1 second rate, OFF for 90% (900mS) ON for 10% (100mS).

On-line: 1 second rate, OFF for 10% (100mS) ON for 90% (900mS).

LED2: SIO Communication Port 1 Status (TB2: RS485-1):

Indicates communication activity on SIO communication port 1.

LED3: SIO Communication Port 2 Status (TB3: RS485-2):

Not supported, the LED is OFF

LED4: Cabinet Tamper Switch:

OFF: No cabinet tamper (switch closed).

ON: Cabinet tamper (switch open).

LED5: UPS Fault Monitor:

OFF: No UPS Fault (switch closed).

ON: UPS Fault (switch open).

LED4 and **LED5:** Every 3 seconds the LED will change state for 50mS.

8. Technical Specifications – AP-ICM

** The processor is for use in low voltage, class 2 circuit only.

Primary power:

10-28Vdc, 250mA

Ports:

2-wire RS-485 serial port: asynchronous, half-duplex, 1 start bit, 8 data bits, and 1 stop bit. Baud rate is switch selectable: 2400 to 38400 BPS. If modems and/or drivers are used, fast data turnaround times are required.

Outputs:

8 Form-C, 2A 30Vdc, Resistive.

Inputs:

2 non-supervised, normally closed contacts for Tamper and power fault

Wire requirement:

Power: 1 twisted pair, 18 AWG

RS-485: 24AWG, 4,000ft (1,200m) max., twisted pair(s) with shield.

Alarm inputs:1 twisted pair per input

Output:As required for the load

Environmental:

Temperature: 0 to 70 °C, operating, -55 to +85 °C, storage

Humidity: 0 to 95% RHNC

Mechanical:

Dimension - 4" (102mm)W x 7" (178mm)L x 1" (25mm)H

Specification subject to change without notice.

The AP-OCM should only be used to control exits from areas where an alternative method for exit is available. This product is not intended for, nor is rated for operation in life-critical control application. Digital Horizon Solutions, LLC is not liable under any circumstances for loss or damage caused by or partially caused by the misapplication or malfunction of the product. Digital Horizon Solutions, LLC's liability does not extend beyond the purchase price of the product.

EP Series

EP-2500 Intelligent Controller

Installation and Specifications:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



1. General

The EP-2500 processor provides the real time processing for the I/O interfaces connected to it. The data base for the subsystem configuration and card holders are stored in flash memory. The event log buffer is stored in battery backed memory. Configuration data and event/status reports are communicated to the host via on-board 10-BaseT/100Base-TX Ethernet port or port 1.

Port 1 may be set up as RS-232, 2-wire RS-485 or an optional 10base-T/100Base-TX using a Lantronix CoBox-Micro interface daughter board.

I/O devices are connected via ports 2 and 3 using 2-wire RS-485.

2. Setting Up the EP-2500 Hardware:

The EP-2500 processor is configured with a number of jumpers and a set of 4 switches. These jumpers/switches setup the port interface, end of line termination, and operating mode configuration. Please refer to the below tables.

JUMPERS	SET AT	DESCRIPTION
J2	N/A	Factory use only
J3	N/A	Factory use only
J4	OFF	Port 2 RS-485 EOL Terminator is off
	ON	Port 2 RS-485 EOL Terminator is on
J5	OFF	Port 3 RS-485 EOL Terminator is off
	ON	Port 3 RS-485 EOL Terminator is on
J6	N/A	Lantronix Micro100 connection - Port 1
J7, J8, J9	232	Port 1 is RS-232
	485	Port 1 is RS-485
J10	OFF	Port 1 RS-485 EOL Terminator is off
	ON	Port 1 RS-485 EOL Terminator is on
J11	N/A	Factory use only
J12	N/A	Factory use only
J13	N/A	Factory use only
J14	N/A	Remote status LED # 1, see note 1
J15	N/A	Remote status LED # 2, see note 1
J16	N/A	Remote status LED # 3, see note 1
J17	N/A	Remote status LED # 4, see note 1

NOTE 1: Observe polarity connection to LED. External current limiting is not required.

Dip Switches:

The four switches on S1 DIP switch configure the operating mode of the EP-2500 processor. DIP switches are read on power-up except where noted. Pressing switch S2 causes the EP-2500 to reset.

1	2	3	4	Definitions
OFF	OFF	X	OFF	Normal operating mode
ON	X	X	X	After initialization, enable default User Name (admin) and Password (password). The switch is read on the fly, no need to re-boot.
OFF	ON	X	OFF	Use factory default communication parameters.
ON	ON	X	OFF	Use OEM default communication parameters. Contact system manufacture for details. See Bulk Erase below.
X	X	ON	X	Disable TLS secure link. Switch is read only when logging on.

All other switch settings are unassigned and are reserved for future use.

Factory Default Communication Parameters:

Network: static IP address = 192.168.0.251

Communication address: 0

Primary Host port: IP server, no encryption, port 3001.

Alternate Host port: RS-232, 38400 baud, no encryption, no flow control.

Bulk Erase Configuration Memory:

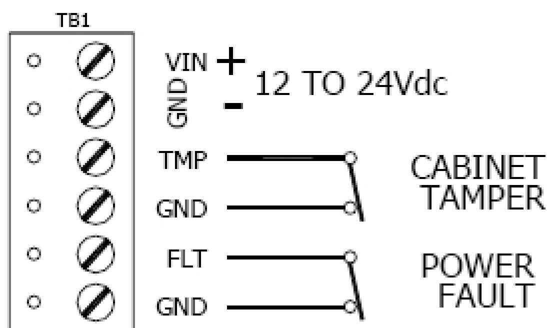
Use the bulk erase function to erase all configuration and cardholder databases. When power is applied with S1 switches set to 1 & 2 ON and 3 & 4 OFF, there is a 10-second window that if switch 1 or 2 is changed to the OFF position, memory is erased. The LEDs flash the following pattern when in the reset window: LED 1 & 2 and LED 3 & 4 flash alternately at .5 second rate. When erasing memory, LED 2 flashes at a 2 seconds rate. DO NOT CYCLE POWER. Erasing memory takes approximately 60 seconds. LEDs 1 and 4 flash for 10 seconds after the memory has been erased, then the EP-2500 will reboot.

3. Input Power, Cabinet Tamper and UPS Fault Input Wiring:

The EP-2500 requires 12-24Vdc power. Locate power source as close to the unit as possible. Connect power with minimum of 18 AWG wire.

Connect the GND signal to earth ground in ONE LOCATION within the System! Multiple earth ground connections may cause ground loop problems and is not advised. Observe POLARITY on 12-24Vdc input!

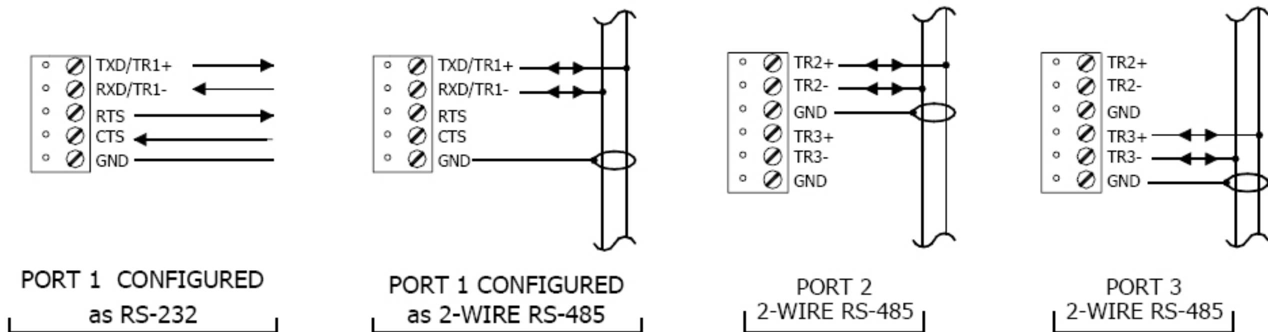
There are two dedicated inputs for cabinet tamper and UPS fault monitoring. Normal (safe) condition is a closed contact. If these inputs are not used, install a jumper wire.



4. Communication Wiring:

The EP-2500 processor communicates to the host via: on-board Ethernet 10-BaseT/100Base-TX port or on port 1. Port 1 may be configured as RS-232, 2-wire RS-485 or optional Lantronix Ethernet 10-BaseT/100Base-TX Micro100 interface. RS-232 interface is for direct one to one connection to a host computer port, or a modem.

Ports 2 and 3 utilize 2-wire RS-485 interface. The interface allows multi-drop communication on a single bus of up to 4,000 feet (1,200 m). Use twisted pair (minimum 24 AWG) with shield for the communication with 120 ohm impedance. Install termination jumpers only on the units at each end of the communication line.



5. Memory Backup Battery:

The static RAM and the real time clock device are powered by a lithium battery when input power is removed. This battery should be replaced annually. If the data in the static RAM is determined to be corrupt after power up, all data, including flash memory, is considered invalid and is erased. All configuration data must be re-downloaded. Battery type: BR2325, BR2330, or CR2330.

6. Status LEDs:

Power-up: All LED's OFF.

Initialization: LED's 1 through 6 are sequenced during initialization. LED's 1, 3, and 5 are turned ON for approximately 4 seconds after the hardware initialization has completed, then the application code is initialized. The amount of time the application takes to initialize depends on the size of the database, about 3 seconds without a card database. Each 10,000 cards will add about 3 seconds to the application initialization. When LED's 1 through 4 flash at the same time, data is being read from or written to flash memory, do not cycle power when in this state. If the sequence stops or repeats, perform one of the steps below.

1. Power-up and tag database as invalid:
   Remove input power to the EP-2500, place an insulator under the battery clip, wait 5-10 seconds, remove insulator, reapply input power.
2. Power-up without loading database into RAM:
   Remove input power to the EP-2500, set DIP to a default mode (in a default mode, the database is not loaded into RAM), reapply input power.

3. Erase all of the configuration and databases (also erases card database for security reasons):

See procedure in DIP switch note in section 2.

If clearing the memory does not correct the initialization problem, contact technical support.

Running:

LED	DESCRIPTION
1	Off-Line / On-Line and Battery Status
	Off-Line = 20% ON, On-Line = 80% ON
	Double Flash if Battery is Low
2	Flashes with Host Communication Activity (Serial - Port 1)
3	Flashes with Port 2 Communication Activity
4	Flashes with Port 3 Communication Activity
5	Unassigned
6	Unassigned
D7	Flashes with Host Communication (Ethernet - Port 0)
YEL	On-board Ethernet Speed: OFF = 10Mb/S, ON = 100Mb/S (Yellow LED)
GRN	OFF = No Link, ON = Good Link (Green LED), Flashing = Ethernet Activity

7. Technical Specifications:

** The processor is for use in low voltage, class 2 circuits only.

Primary power:

12 to 24Vdc ±10%, 300mA maximum

12Vdc @ 240mA (325mA with Micro100) nominal

24Vdc @ 135mA (175mA with Micro100) nominal

Memory and Clock Backup:

3 Volt Lithium, type BR2325, BR2330, CR2330

Ports:

Port 1:

RS-232 or 2-wire RS-485: 9,600 to 115,200 bps, async

Ports 2 & 3:

2-wire RS-485: 2,400 to 38,400 bps, async

Inputs:

2 non-supervised, dedicated for cabinet tamper and power fault monitoring

Cable requirements:

Power: 1 twisted pair, 18 AWG

RS-485: 24 AWG, 4,000ft (1,200m) maximum, twisted pair with shield. 120 Ohm

RS-232: 24 AWG, 25ft (7.6m) maximum

Ethernet: Cat 5

Alarm input: 1 twisted pair, 30 ohms maximum

Environmental:

Temperature: 0 to 70°C, operating -55 to +85°C, storage

Humidity: 0 to 95% RHNC

Mechanical:

Dimension: 5 in. (127mm) W x 6 in. (152.4mm) L x 1 in. (25mm) H

Weight: 4.1 oz (115 gm) nominal

Lantronix NIC support:

Standoff size - Diameter .125 inch x 7/16 inch long Richco, Inc. part number LMSP-7-01, 3 pieces (Not supplied)

Specification subject to change without notice.

EP-1502 Intelligent Controller

With Two Reader Interface

Installation and Specifications:

> This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



1. General:

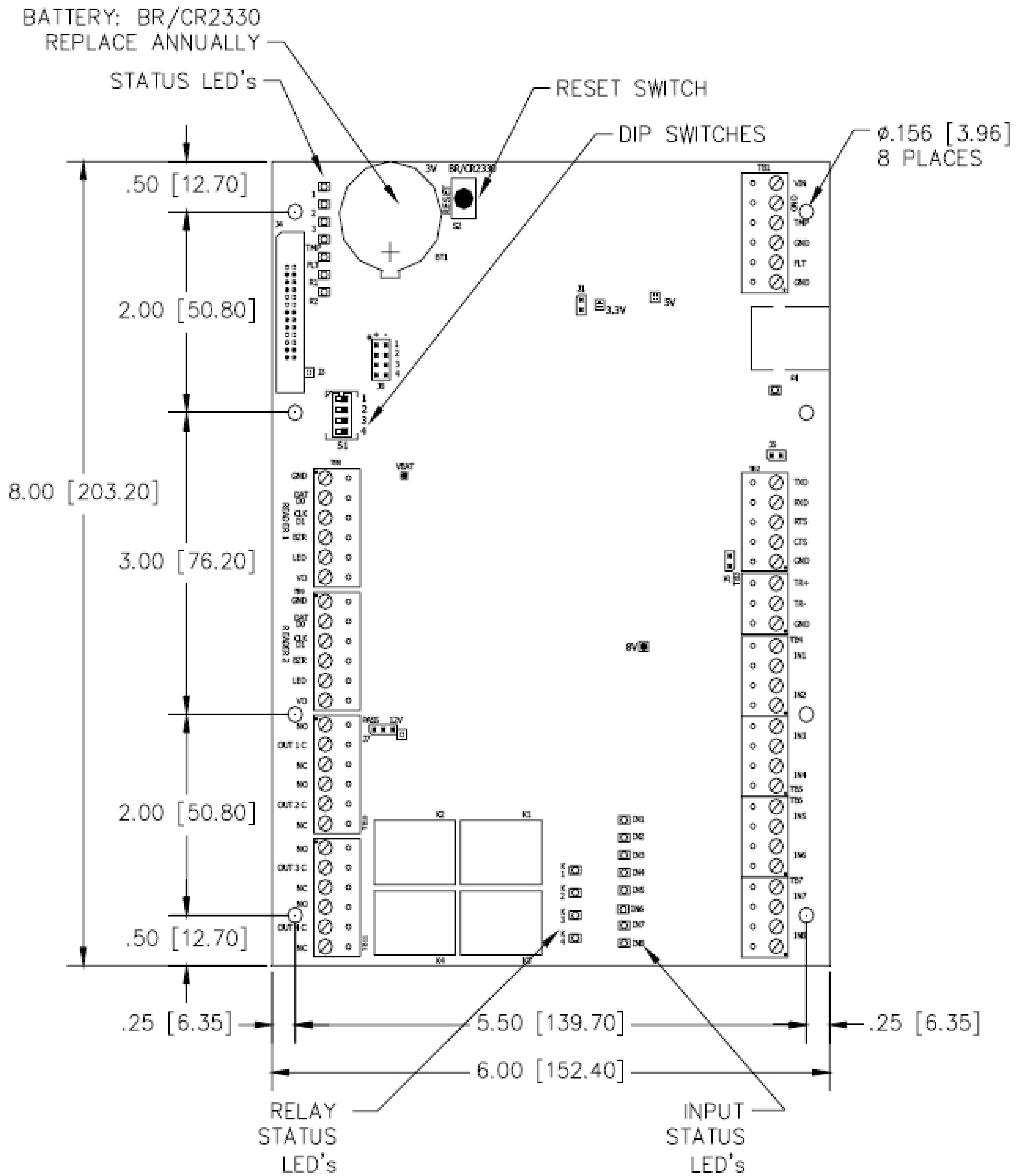
The EP-1502 intelligent controller provides decision making, event reporting, and database storage for the Mercury hardware platform. Two reader interfaces provide control for two doors.

The controller communicates with the Gateway via on-board 10-BaseT/100Base-TX Ethernet port. Alternatively, port 1 (RS-232) can be used for Gateway communication.

Two physical barriers can be controlled with the EP-1502. Each reader port can accommodate a readhead that utilizes wiegand, magnetic stripe, or 2-wire RS-485 electrical signaling standards, one or two wire LED controls, and buzzer control (one wire LED mode only). Four form-c relay outputs may be used for strike control or alarm signaling. The relay contacts are rated at 5A @ 30Vdc, dry contact configuration. Eight inputs are provided for monitoring the door contacts, exit push buttons and alarm

contacts. The EP-1502 requires 12-24Vdc for power. It is recommended that the EP-1502 be mounted .25" minimum above any conductive surface.

2. EP-1502 Hardware:



3. EP-1502 Wiring and Set Up:

CONNECTION		
TB8	Reader 1	GND: Ground
		DAT/D0: Data/Data 0/TR-
		CLK/D1: Clock/Data 1/TR+
		BZR: Reader Buzzer
		LED: Reader LED
		VO: Reader Power
TB9	Reader 2	GND: Ground
		DAT/D0: Data/Data 0/TR-
		CLK/D1: Clock/Data 1/TR+
		BZR: Reader Buzzer
		LED: Reader LED
		VO: Reader Power
TB10	Out 1	NO: Normally Open Contact
		C: Common
		NC: Normally Closed Contact
	Out 2	NO: Normally Open Contact
		C: Common
		NC: Normally Closed Contact
TB11	Out 3	NO: Normally Open Contact
		C: Common
		NC: Normally Closed Contact
	Out 4	NO: Normally Open Contact
		C: Common
		NC: Normally Closed Contact

CONNECTION		
TB1	Power Input	VIN: 12 to 24Vdc
		GND
	Cabinet Tamper Input	TMP
		GND
	Power Fault Input	FLT
		GND
TB2	Host Port 1	TXD (RS-232)
		RXD (RS-232)
		RTS (RS-232)
		CTS (RS-232)
		GND (RS-232)
TB3	SIO Port	TR+ (2-wire RS-485)
		TR- (2-wire RS-485)
		GND (2-wire RS-485)
TB4	Input 1	IN1
		IN1
	Input 2	IN2
		IN2
TB5	Input 3	IN3
		IN3
	Input 4	IN4
		IN4
TB6	Input 5	IN5
		IN5
	Input 6	IN6
		IN6
TB7	Input 7	IN7
		IN7
	Input 8	IN8
		IN8

Jumpers:

The EP-1502 processor hardware interface is configured using jumpers to setup the port interface and end of line termination.

JUMPERS	SET AT	DESCRIPTION
J1	N/A	Factory Use Only
J2	N/A	10Base-T/100Base-Tx Ethernet Connection (Port 0)
J3	N/A	Factory Use Only
J4	N/A	Factory Use Only
J5	OFF	Port 2 RS-485 EOL Terminator is Off
	ON	Port 2 RS-485 EOL Terminator is On
J6	N/A	Factory Use Only
J7		Reader Power Select. See Note 1
	12V	12Vdc at Reader Ports
	PASS	VIN "Pass Through" to Reader Ports
J8-1	N/A	Remote Status Led #1. See Note 2
J8-2	N/A	Remote Status Led #2. See Note 2
J8-3	N/A	Remote Status Led #3. See Note 2
J8-4	N/A	Remote Status Led #4. See Note 2

Note 1: The input power (VIN) must be 20Vdc minimum if the 12Vdc selection is to be used.

Note 2: Observe POLARITY connection to LED. External current limiting is not required.

DIP Switches:

The four switches on S1 DIP switch configure the operating mode of the EP-1502 processor. DIP switches are read on power-up except where noted. Pressing switch S2 causes the EP-1502 to reset.

1	2	3	4	Definitions
OFF	OFF	X	OFF	Normal operating mode.
ON	X	X	X	After initialization, enable default User Name (admin) and Password (password). The switch is read on the fly, no need to re-boot.
OFF	ON	X	OFF	Use factory default communication parameters.
ON	ON	X	OFF	Use OEM default communication parameters. Contact system manufacture for details See. Bulk Erase below.
X	X	ON	X	Disable TLS secure link. Switch is read only when logging on.

All other switch settings for unassigned and are reserved for future use.

Factory Default Communication Parameters:

Network: static IP address: 192.168.0.251

Communication address: 0

Primary Host port: IP server, no encryption, port 3001.

Port 1: RS-232, 38400 baud, no encryption, no flow control.

Bulk Erase Configuration Memory:

Use the bulk erase function to erase all configuration and cardholder databases. When power is applied with S1 switches set to 1 & 2 ON and 3 & 4 OFF, there is a 10-second window that if switch

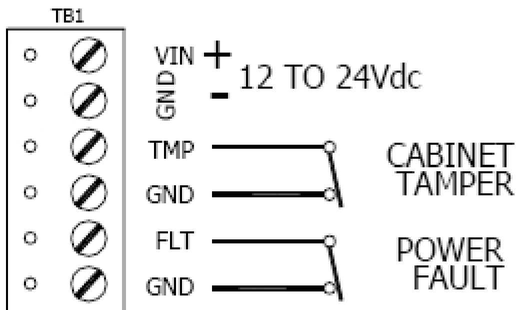
1 or 2 is changed to the OFF position memory is erased. The LEDs flash the following pattern when in the reset window: LED 1 & 2 and LED 3 & 4 flash alternately at .5 second rate. When erasing memory, LED 2 flashes at a 2 second rate; **DO NOT CYCLE POWER**. It takes approximately. 60 seconds to erase the memory. LEDs 1 and 4 flash for 10 seconds after the memory has been erased, then the EP-1502 will re-boot.

4. Input Power, Cabinet Tamper and UPS Fault Input Wiring:

The EP-1502 requires 12-24Vdc power. Locate power source as close to the unit as possible. Connect power with minimum of 18 AWG wire.

Connect the GND signal to earth ground in ONE LOCATION within the system! Multiple earth ground connections may cause ground loop problems and is not advised. Observe POLARITY on 12-24Vdc input!

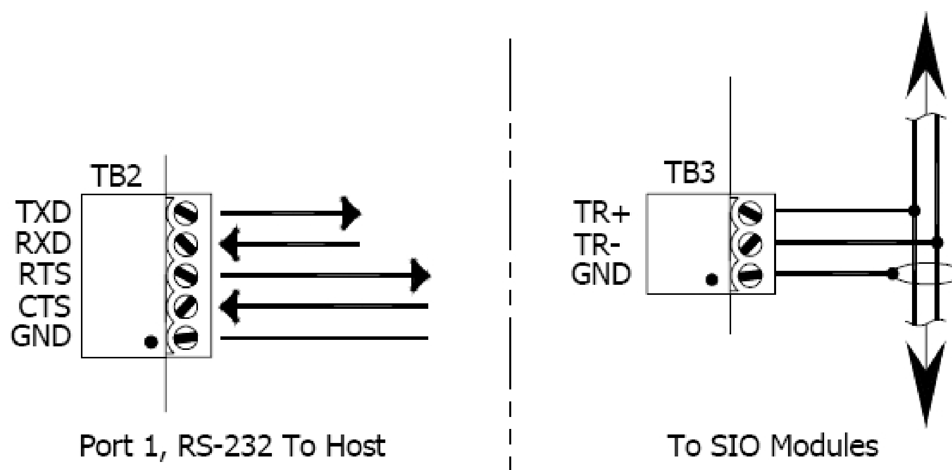
There are two dedicated inputs for cabinet tamper and UPS fault monitoring. Normal (safe) condition is a closed contact. If these inputs are not used, install a jumper wire.



5. Communication Wiring:

The EP-1502 controller communicates to the host via the on-board 10-BaseT/100Base-TX Ethernet interface (port 0) and/or RS-232 interface (port 1). RS-232 interface is for direct one to one connection to a host computer port or via modem, 25 feet maximum.
The SIO communication port (TB2) is a 2-wire RS-485 interface which can be used to connect additional I/O panels (SIO's). The interface allows multi-drop communication on a single bus of up to 4,000 feet (1,200 m). Use twisted pairs (minimum 24 AWG) with an overall shield for communication.

IMPORTANT NOTE: Install the termination jumper ONLY on the panel at each end of the RS-485 bus. Failure to do so will compromise the proper operation of the communication channel!

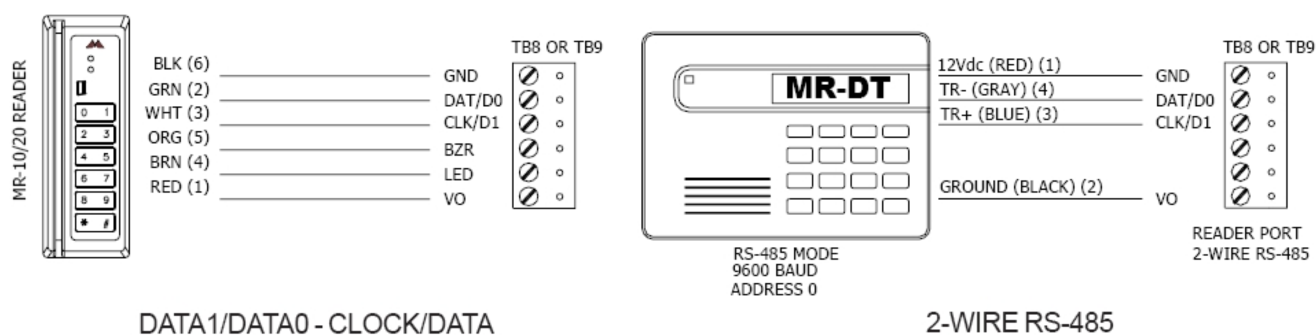


6. Reader Wiring:

Each reader port supports wiegand, magnetic stripe, and 2-wire RS-485 electrical interfaces. Power to the reader is selectable: 12Vdc (VIN must be greater than 20Vdc), or power is passed-through (PT) from the input voltage of the EP-1502 (TB1-VIN) and is current limited to 150mA for each reader port. Readers that require different voltage or have high current requirements should be powered separately. Refer to the reader manufacture specifications for cabling requirements. In the 2-wire LED mode the Buzzer output in used to drive the second LED. Reader port configuration is set via the host software.

PASS 12V	READER POWER
[jumper: 12V]	12Vdc IS AVAILABLE ON READER PORTS (VIN≥20Vdc)
[jumper: PASS]	VIN POWER IS "PASSED THROUGH" TO READER PORTS

J7 - READER POWER SELECT

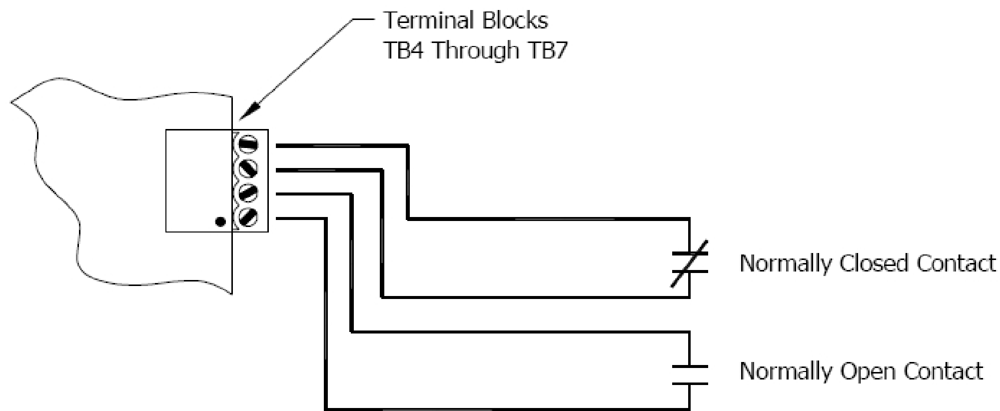


DATA1/DATA0 - CLOCK/DATA

2-WIRE RS-485

7. Input Circuit Wiring:

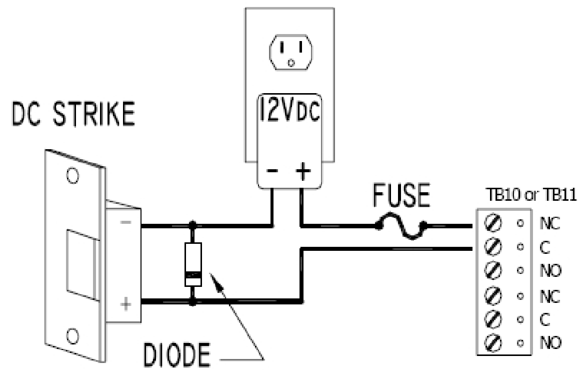
Typically, these inputs are used to monitor door position, request to exit, or alarm contacts.



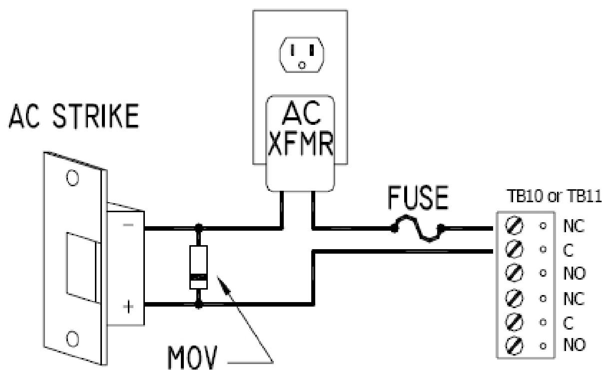
8. Relay Circuit Wiring:

Four relays are provided for controlling door lock mechanisms or alarm signaling. The relay contacts are rated at 5A @ 30Vdc, dry contact configuration. Each relay has a Common pole (C), a Normally Open pole (NO) and a Normally Closed pole (NC). When you are controlling the delivery of power to the door strike, the Normally Open and Common poles are used. When you are momentarily removing power to unlock the door, as with a mag lock, the Normally Closed and Common poles are used. Check with local building codes for proper egress door installation.

Door lock mechanisms can generate feedback to the relay circuit that can cause damage and premature failure of the relay. For this reason, it is recommended that either a diode or MOV (metal oxide varistor) be used to protect the relay. Wire should be of sufficient gauge to avoid voltage loss.



Diode Selection:
Diode current rating: 1x strike current.
Diode breakdown voltage 4x strike voltage.
For 12Vdc or 24Vdc strike, diode 1N4002 (100V/1A) typical.



MOV Selection:
Clamp voltage: 1.5x Vac RMS. For 24Vac strike, Panasonic ERZ-C07DK470 typical.

9. Memory and Real Time Clock Backup Battery:

The static RAM and the real time clock are backed up by a lithium battery when input power is removed. This battery should be replaced annually. If data in the static RAM is determined to be corrupt after power up, all data, including flash memory, is considered invalid and is erased All configuration data must be redownloaded. Remove the insulator from the battery holder after installation. Battery type: BR2325, BR2330, or CR2330.

10. Status LEDs:

Power-up: All LED's OFF.

Initialization: LED's 1, 2, 3, TMP, FLT, R1, R2, IN1, IN2, IN3, IN4, IN5, IN6, IN7 and IN8 are sequenced during initialization. LED's 1, 3, and TMP are turned ON for approximately 4 seconds after the hardware initialization has completed, then the application code is initialized. The amount of time the application takes to initialize depends on the size of the database, about 3 seconds without a card database. Each 10,000 cards will add about 3 seconds to the application initialization. When LED's 1, 2, 3 and TMP flash at the same time, data is being read from or written to flash memory, do not cycle power when in this state. If the sequence stops or repeats, perform one of the steps below.

1. Power-up and tag database as invalid:

   Remove input power to the EP-1502, place an insulator under the battery clip, wait 5-10 seconds, remove insulator, reapply input power.

2. Power-up without loading database into RAM:

Remove input power to the EP-1502, set DIP to a default mode (in a default mode, the database is not loaded into RAM), reapply input power.

3. Erase all of the configuration and databases (also erases card database for security reasons):

See procedure in DIP switch note in section 2.

If clearing the memory does not correct the initialization problem, contact technical support.

Running: After initialization is complete, the LEDs have the following meanings:

LED	DESCRIPTION
1	Off-Line / On-Line and Battery Status
	Off-Line = 20% ON, On-Line = 80% ON
	Double Flash if Battery is Low
2	Primary Host Communication Activity (Serial Port 1)
3	Internal SIO Communication Activity
TMP	External SIO Communication Activity
FLT	Unassigned
R1	Reader 1: Clock/Data or D1/D0 Mode = Flashes when Data is Received, Either Input. RS-485 Mode = Flashes when Transmitting Data
R2	Reader 2: Clock/Data or D1/D0 Mode = Flashes when Data is Received, Either Input. RS-485 Mode = Flashes when Transmitting Data
D16	Flashes with Host Communication (Ethernet Port 0)
YEL	Ethernet Speed: OFF = 10Mb/S, ON = 100Mb/S
GRN	OFF = No Link, ON = Good Link, Flashing = Ethernet Activity
IN1	Input IN1 Status: OFF = Inactive, ON = Active, Flash = Trouble
IN2	Input IN2 Status: OFF = Inactive, ON = Active, Flash = Trouble
IN3	Input IN3 Status: OFF = Inactive, ON = Active, Flash = Trouble
IN4	Input IN4 Status: OFF = Inactive, ON = Active, Flash = Trouble
IN5	Input IN5 Status: OFF = Inactive, ON = Active, Flash = Trouble
IN6	Input IN6 Status: OFF = Inactive, ON = Active, Flash = Trouble
IN7	Input IN7 Status: OFF = Inactive, ON = Active, Flash = Trouble
IN8	Input IN8 Status: OFF = Inactive, ON = Active, Flash = Trouble
K1	Relay K1: ON = Energized
K2	Relay K2: ON = Energized
K3	Relay K3: ON = Energized
K4	Relay K4: ON = Energized

11. Technical Specifications:

The interface is for use in low voltage, class 2 circuit only.

The installation of this device must comply with all local fire and electrical codes.

Primary Power:

12-24Vdc ± 10%, 500mA maximum (reader current not included)

12Vdc @ 250mA (plus reader current) nominal

24Vdc @ 150mA (plus reader current) nominal

Memory and Clock Backup Battery:

3 Volt Lithium, type BR2325, BR2330 or CR2330

Host Communication:

Ethernet: 10BaseT/100Base-TX, and RS-232 9,600 to 115,200 bps, asyn chronous, half-duplex, 1 start bit, 8 data bits, and 1 stop bit.

SIO Communication:

2-wire RS-485, 2,400 to 38,400 bps, asynchronous, half-duplex, 1 start bit, 8 data bits, and 1 stop bit.

Inputs:

2 dedicated for tamper and UPS fault monitoring.

8 for door position monitoring, request to exit or alarm contacts.

Relays:

4, Form-C, 5A @ 30Vdc, resistive.

Reader Interface:

Reader Power(jumper selectable):

12Vdc±10% regulated, current limited to 150mA for each reader.

or

12 to 24Vdc±10% (input voltage passed through) current limited to 150mA for each reader.

Data Inputs:

TTL compatible inputs, mag stripe and wiegand standards supported. Maximum cable length: 500' (152m)

RS-485 Mode:

9600 bps, asynchronous, half-duplex, 1 start bit, 8 data bits, and 1 stop bit. Maximum cable length: 4000' (1,200m).

LED Output:

TTL levels, high>3V, Low<0.5V, 5mA source/sink maximum.

Buzzer Output:

TTL levels, high>3V, Low<0.5V, Low=Active, 5mA source/sink maximum.

Cable requirements:

Power: 1 twisted pair, 18 AWG

RS-485: 24 AWG, 4,000ft (1,200m) maximum, twisted pair with shield. 120 Ohm

RS-232: 24 AWG, 25ft (7.6m) maximum

Ethernet: Cat 5

Alarm input:: 1 twisted pair, 30 ohms maximum, typically 22 AWG @ 1000ft (300m).

Environmental:

Temperature: 0 to 70°C, operating -55 to +85°C, storage

Humidity: 0 to 95% RHNC

Mechanical:

Dimension: 8 in. (203.2mm) W x 6 in. (152.4mm) L x 1 in. (25mm) H

Weight: 9 oz (255 gm) nominal, board only

Specification subject to change without notice. The EP-1502 should only be used to control exits from areas where an alternative method for exit is available. This product is not intended for, nor is rated for operation in life-critical control applications. Digital Horizon Solutions, LLC is not liable under any circumstances for loss or damage caused by or partially caused by the misapplication or malfunction of the product. Digital Horizon Solutions, LLC's liability does not extend beyond the purchase price of the product.

SCP SERIES

SPM-C Intelligent Controller

Installation and Specifications:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



1. General

The SPM-C processor provides the real time processing for the I/O interfaces connected to it. It holds the data base for the subsystem configuration and card holders, the event log buffer in battery backed memory. Configuration data and event/status reports are communicated via port 1, the host port, to the software. I/O devices (SDM, DDM, ICM and OCM) are connected via port 2 through port 3. Port 1 may be set up as a RS-232 interface, a RS-485 interface or with an additional LAN adapter, an Ethernet 10BaseT LAN interface. RS-485 interface may be of 2-wire or 4-wire type. Port 2 and port 3 are 2-wire RS-485 interface. The layout of the SPM is shown below.

FOR ETHERNET APPLICATION:
LANTRONIX COBOX MICRO
RICHCO PLASICS STANDOFF. LMSP-7-01
3 PIECES

DIP SWITCHES

PROGRAM PROM

Φ0.156, MOUNTING HOLES

0.50 [12.7]
2.00 [50.8]
2.00 [50.8]
0.50 [12.7]
0.25 [6.4]
5.50 [139.7]
6.00 [152.4]

2. Configuring the Processor Hardware:

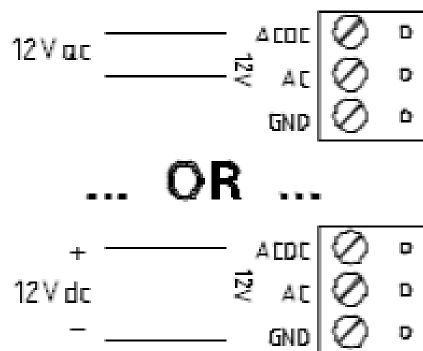
The SPM-C processor hardware is configured with a number of jumpers and a set of 8 switches. These jumpers/switches setup the memory chip size, port interface, end of line termination, processor address, and baud rate. Please refer to the tables.

JUMPERS	SET AT	SELECTED
J3,J4,J5,J6,J9	232	PORT 1 IS RS-232
	485	PORT 1 IS RS-485
J7	2W	PORT 1 IS 2-WIRE FOR RS-485 INTERFACE
	4W	PORT 1 IS 4-WIRE FOR RS-485 INTERFACE
J8,J10	OFF	PORT 1 RS-485 EOL TERMINATOR IS NOT ON
	ON	PORT 1 RS-485 EOL TERMINATOR IS ON
J11	OFF	PORT 2 RS-485 EOL TERMINATOR IS NOT ON
	ON	PORT 2 RS-485 EOL TERMINATOR IS ON
J12	OFF	PORT 3 RS-485 EOL TERMINATOR IS NOT ON
	ON	PORT 3 RS-485 EOL TERMINATOR IS ON
J13	OFF	PORT 1, ETHERNET (COBOX-MICRO)
	ON	PORT 1, SERIAL (RS-232 or RS-485)

S8	S7	S6	S5	S4	S3	S2	S1	SELECTION
				OFF	OFF	OFF	OFF	ADDRESS 0
				OFF	OFF	OFF	ON	ADDRESS 1
				OFF	OFF	ON	OFF	ADDRESS 2
				OFF	OFF	ON	ON	ADDRESS 3
				OFF	ON	OFF	OFF	ADDRESS 4
				OFF	ON	OFF	ON	ADDRESS 5
				OFF	ON	ON	OFF	ADDRESS 6
				OFF	ON	ON	ON	ADDRESS 7
			OFF					NO HARDWARE HANDSHAKE
			ON					TX ENABLED BY CTS
	OFF	OFF						2,400 BPS
	OFF	ON						9,600 BPS
	ON	OFF						19,200 BPS
	ON	ON						38,400 BPS
OFF								NO PASSWORD
ON								PASSWORD LOGON REQUIRED

3. Supply Power to the Interface:

The processor accepts either 12Vdc or 12Vac for power. Locate power source as closed to the unit as possible. Connect power with minimum of 18AWG wires. For AC operation, use 1 AC source per unit. The power connections for the SPM are shown below. Observe POLARITY for 12Vdc application!

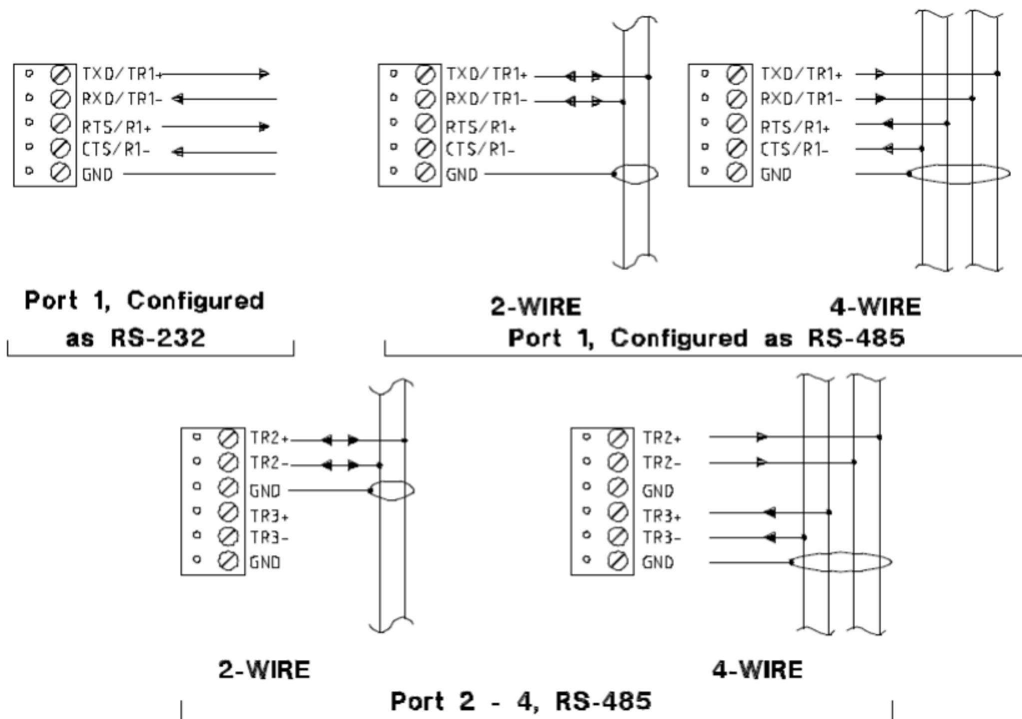


4. Communication Wiring:

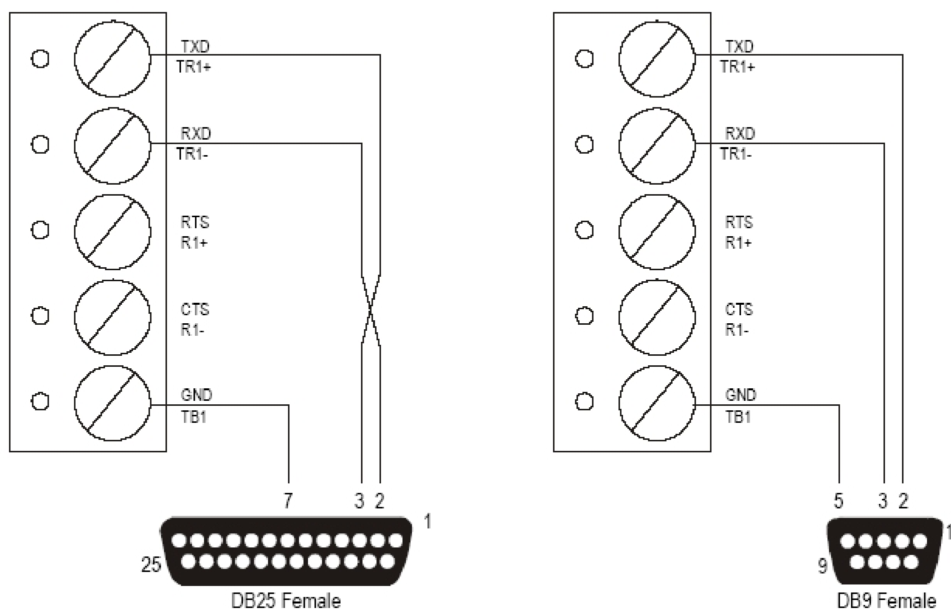
The SPM-C processor communicates to host via port 1. Port 1 may be set up as RS-232, RS-485 or Ethernet 10BaseT (Lantronix CoBox-Micro required). RS-485 interface is for multi-drop or direct wire, extended distance application. RS-232 interface is for direct one to one connection to a host computer port or via modem. With an addition of a Lantronix CoBox-Micro Ethernet module, SPM-C can also communicate with the host computer via LAN.

Port 2 and 3 are RS-485 interface, which may be configured for either 2-wire or 4-wire operation. The interface allows multi-drop communication on a single bus of up to 4,000 feet (1,200 m). Use twisted

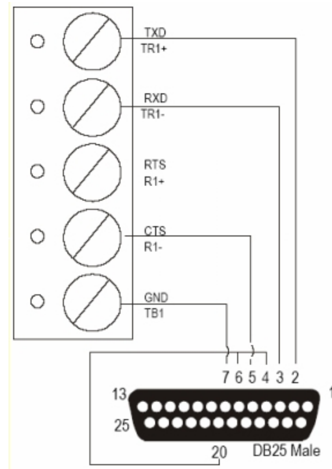
pairs (minimum 24 AWG) with shield for the communication. Install termination jumper only for end of line unit.



Port 1 is either and RS-232 or RS-485 interface and is the communications port to the PC. Refer to the figure below for wiring to the PC communications port.

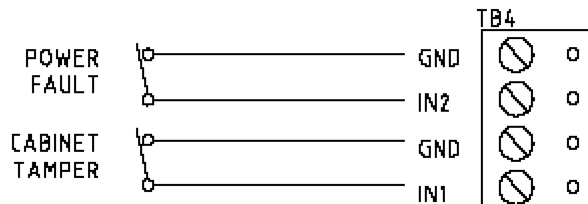


The SPM-C can also communicate via modem. Refer to the diagram below for wiring the SPM for a modem connection.



5. Alarm Inputs Wiring:

Inputs 1 and 2 are for cabinet tamper and power fault monitoring. Normal (safe) condition is closed contact. If these inputs are not used, install a shorting wire.



6. Memory Backup Battery:

The configuration data and the event buffer are backed up by a 3V lithium battery. This battery should be replaced annually.

7. Status LEDs

Power-up: All LED’s OFF.

Initialization: Once power is applied, initialization of the module begins.

A: One brief flash indicating that hardware initialization has begun.

B: RAM test: ON during RAM test.

C: ON if the RAM is cleared during RAM test.

End of initialization: A, B and C LEDs are ON for one second, and then turned OFF.

If any initialization tests fail, the watchdog timer will reset the processor and testing will repeat. The watchdog timer interval is one second.

Running: After the above sequence, the LEDs have the following meanings:

A: Task Monitor: Flashes erratically.

B: Host Communication Indicator: Flashing indicates host communication.

C: SIO Communication Indicator: Flashing indicates SIO communication.

8. Technical Specifications - SPM-C

** The processor is for use in low voltage, class 2 circuit only.

Primary power (DC or AC) :

DC input: 12Vdc±15%, 250mA (400mA with LAN Adaptor)

AC input: 12Vac±15%, 400mA RMS (600mA with LAN Adaptor)

Memory and Clock Backup:

3Volt Lithium, type BR2325, BR2330 or CR2330

Data memory:

512kb

Ports:

Port 1 - RS-232 or RS-485, 2,400 to 38,400 bps, async Ethernet 10/BaseT with LAN Adaptor

Port 2, 3 - RS-485, 2-wire, 2,400 to 38,400 bps, async

Inputs:

2 non-supervised, normally closed contacts for Tamper and power fault

Wire requirement:

Power: 1 twisted pair, 18 AWG

RS-485: 24AWG, 4,000ft (1,200m) max., twisted pair(s) with shield.

RS-232: 24AWG, 25ft (7.6m) max.

Alarm input: 1 twisted pair, 30 ohms max.

Environmental:

Temperature: 0 to 70 °C, operating; -55 to +85 °C, storage

Humidity: 0 to 95% RHNC

Mechanical:

Dimension: 6 in. (152mm) W x 5 in. (127mm) L x 1 in. (25mm) H

Weight: 8 oz (230 gm) nominal

Specification subject to change without notice.

The SPM-C should only be used to control exits from areas where an alternative method for exit is available. This product is not intended for, nor is rated for operation in life-critical control applications. Digital Horizon Solutions, LLC is not liable under any circumstances for loss or damage caused by or partially caused by the misapplication or malfunction of the product. Digital Horizon Solutions, LLC's liability does not extend beyond the purchase price of the product.

SPM-S Intelligent Controller

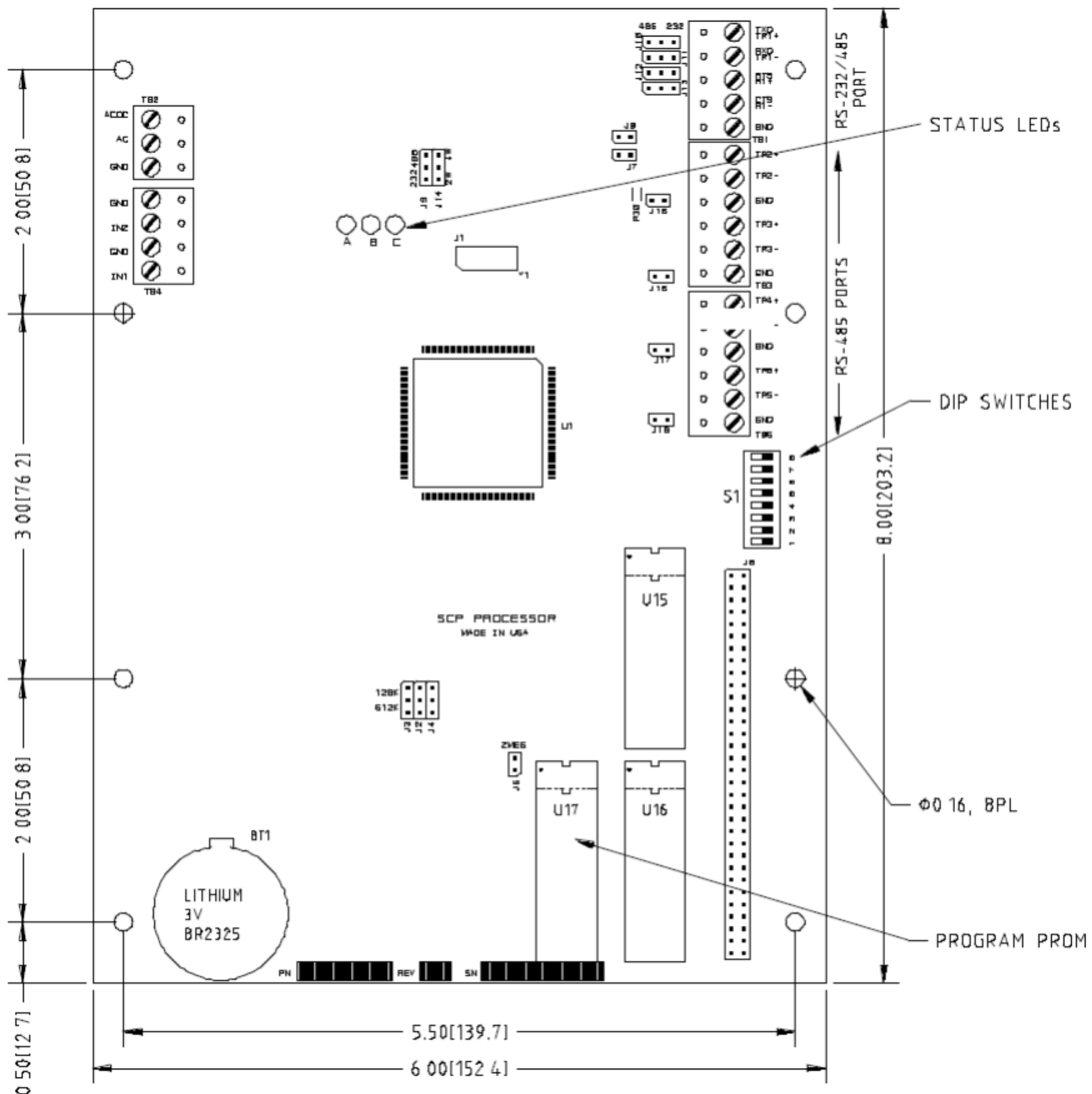
Installation and Specifications:

> This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



1. General

The SPM-S processor provides the real time processing for the I/O interfaces connected to it. It holds the data base for the subsystem configuration and card holders, the event log buffer in battery backed memory. Configuration data and event/status reports are communicated via port 1, the host port. I/O devices are connected via port 2 through port 5. Port 1 may be set up as a RS-232 interface or a RS-485 interface. RS-485 interface may be 2-wire or 4-wire type. Port 2 through port 5 are 2-wire RS-485 interface. If 4-wire communication is required, port 2/3 and port 4/5 may be setup as two 4-wire interface via host configuration.



2. Configuring the SPM-S Hardware:

The SPM-S processor hardware is configured with a number of jumper and a set of 8 switches. These jumpers/switches setup the memory chip size, port interface, end of line termination, processor address, and baud rate. Please refer to the tables.

JUMPERS	SET AT	SELECTED
J2,J3,J4	128	RAM CHIP SIZE IS 128K X 8
	512	RAM CHIP SIZE IS 512K X 8
J6	OFF	PROM CHIP SIZE IS 128K X 8
	ON	PROM CHIP SIZE IS 256K X 8
J9,J10,J11,J12,J13	232	PORT 1 IS RS-232
	485	PORT 1 IS RS-485
J14	2W	PORT 1 IS 2-WIRE FOR RS-485 INTERFACE
	4W	PORT 1 IS 4-WIRE FOR RS-485 INTERFACE
J7,J8	OFF	PORT 1 RS-485 EOL TERMINATOR IS NOT ON
	ON	PORT 1 RS-485 EOL TERMINATOR IS ON
J15	OFF	PORT 2 RS-485 EOL TERMINATOR IS NOT ON
	ON	PORT 2 RS-485 EOL TERMINATOR IS ON
J16	OFF	PORT 3 RS-485 EOL TERMINATOR IS NOT ON
	ON	PORT 3 RS-485 EOL TERMINATOR IS ON
J17	OFF	PORT 4 RS-485 EOL TERMINATOR IS NOT ON
	ON	PORT 4 RS-485 EOL TERMINATOR IS ON
J18	OFF	PORT 5 RS-485 EOL TERMINATOR IS NOT ON
	ON	PORT 5 RS-485 EOL TERMINATOR IS ON

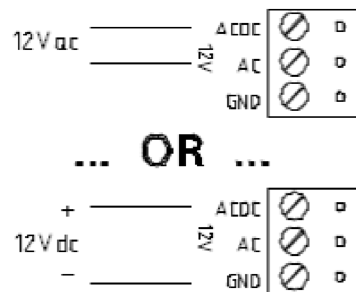
DIP Switches

S8	S7	S6	S5	S4	S3	S2	S1	SELECTION
				OFF	OFF	OFF	OFF	ADDRESS 0
				OFF	OFF	OFF	ON	ADDRESS 1
				OFF	OFF	ON	OFF	ADDRESS 2
				OFF	OFF	ON	ON	ADDRESS 3
				OFF	ON	OFF	OFF	ADDRESS 4
				OFF	ON	OFF	ON	ADDRESS 5
				OFF	ON	ON	OFF	ADDRESS 6
				OFF	ON	ON	ON	ADDRESS 7
			OFF					NO HARDWARE HANDSHAKE
			ON					TX ENABLED BY CTS
	OFF	OFF						2,400 BPS
	OFF	ON						9,600 BPS
	ON	OFF						19,200 BPS
	ON	ON						38,400 BPS
OFF								NO PASSWORD
ON								PASSWORD LOGON REQUIRED

3. Supply Power to the Interface:

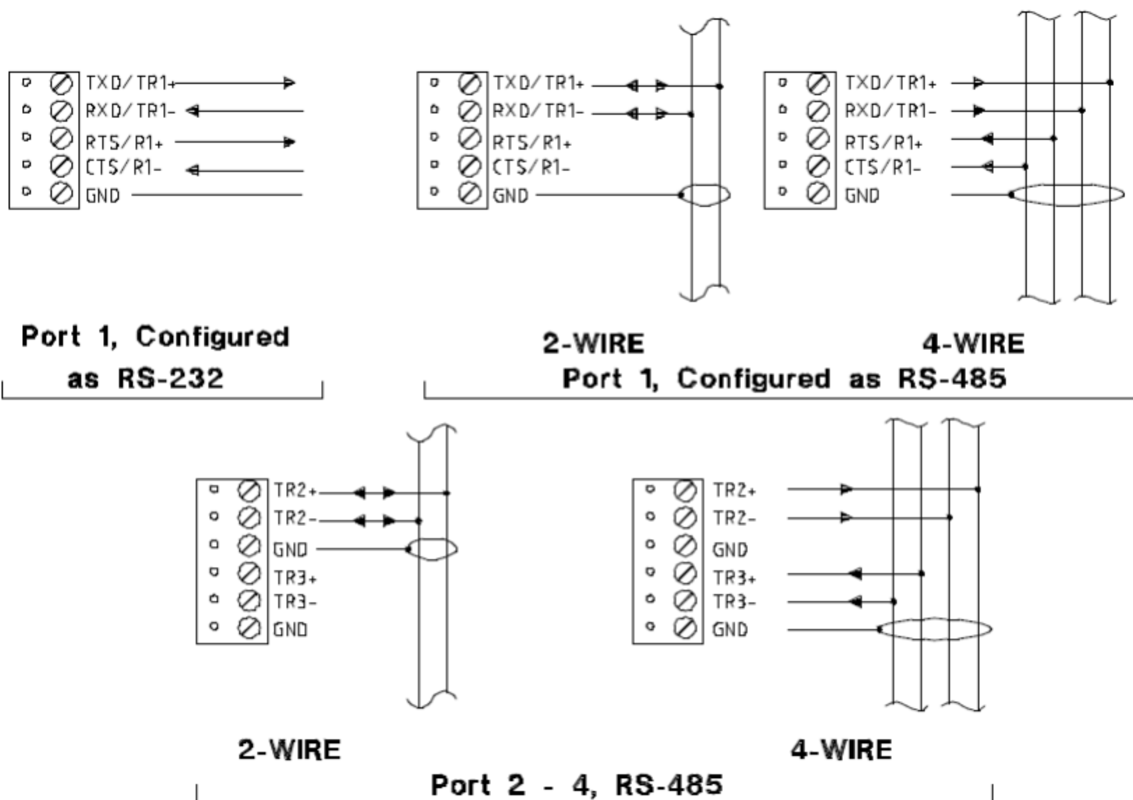
The processor accepts either 12Vdc or 12Vac for power. Locate power source as closed to the unit as possible. Connect power with minimum of 18AWG wires.

Observe POLARITY for 12Vdc application!

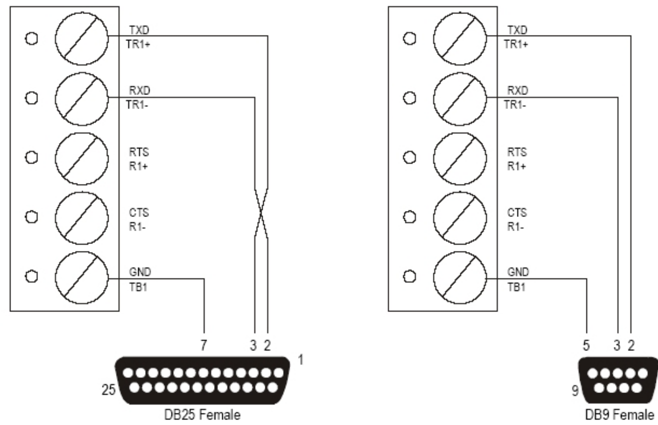


4. Communication Wiring:

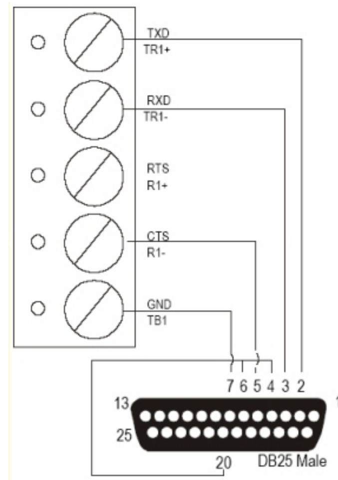
The SPM-S processor communicates to host via port 1. Port 1 may be set up as RS-232 or RS-485 interface. RS-232 interface is for direct one to one connection to a host computer port or via modem. Port 2 - 5 are RS-485 interface, which may be configured for either 2-wire or 4-wire operation. The interface allows multi-drop communication on a single bus of up to 4,000 feet (1,200 m). Use twisted pairs (minimum 24 AWG) with shield for the communication. Install termination jumper only for end of line unit.



Port 1 is either and RS-232 or RS-485 interface and is the communications port to the PC. Refer to the figure below for wiring to the PC communications port.

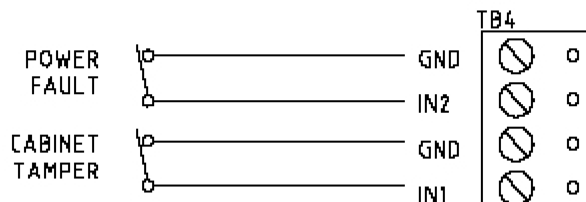


The SPM-S can also communicate via modem. Refer to the diagram below for wiring the SPM for a modem connection.



5. Alarm Inputs Wiring:

Inputs 1 and 2 are for cabinet tamper and power fault monitoring. Normal (safe) condition is closed contact. If these inputs are not used, install a shorting wire.



6. Memory Backup Battery:

The configuration data and the event buffer are backed up by a 3V lithium battery. This battery should be replaced annually.

7. Status LEDs

Power-up: All LED's OFF.

Initialization: Once power is applied, initialization of the module begins.

A: One brief flash indicating that hardware initialization has begun.

B: RAM test: ON during RAM test.

C: ON if the RAM is cleared during RAM test.

End of initialization: A, B and C LEDs are ON for one second, and then turned OFF.

If any initialization tests fail, the watchdog timer will reset the processor and testing will repeat. The watchdog timer interval is one second.

Running: After the above sequence, the LEDs have the following meanings:

A: Task Monitor: Flashes erratically.

B: Host Communication Indicator: Flashing indicates host communication.

C: SIO Communication Indicator: Flashing indicates SIO communication.

8. Technical Specifications - SPM-S

** The processor is for use in low voltage, class 2 circuit only.

Primary power (DC or AC) :

DC input: 12Vdc±10%, 350mA

AC input: 12Vac±15%, 600mA RMS

Memory and Clock Backup:

3Volt Lithium, type BR2325

Data memory:

1MB standard, expandable to 4MB

Ports:

Port 1 - RS-232 or RS-485, 2,400 to 38,400 bps, async

Port 2 - RS-485, 2-wire, 2,400 to 38,400 bps, async

Inputs:

2 non-supervised, normally closed contacts for Tamper and power fault

Wire requirement:

Power: 1 twisted pair, 18 AWG

RS-485: 24AWG, 4,000ft (1,200m) max., twisted pair(s) with shield.

RS-232: 24AWG, 25ft (7.6m) max.

Alarm input: 1 twisted pair, 30 ohms max.

Environmental:

Temperature: 0 to 70 °C, operating; -55 to +85 °C, storage

Humidity: 0 to 95% RHNC

Mechanical:

Dimension: 6 in. (152mm) W x 8 in. (203mm) L x 1 in. (25mm) H

Weight: 10 oz (290 gm) nominal

Specification subject to change without notice.

The SPM-S should only be used to control exits from areas where an alternative method for exit is available. This product is not intended for, nor is rated for operation in life-critical control applications. Digital Horizon Solutions, LLC is not liable under any circumstances for loss or damage caused by or partially caused by the misapplication or malfunction of the product. Digital Horizon Solutions, LLC's liability does not extend beyond the purchase price of the product.

SPM-E Intelligent Controller

Installation and Specifications:

> This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



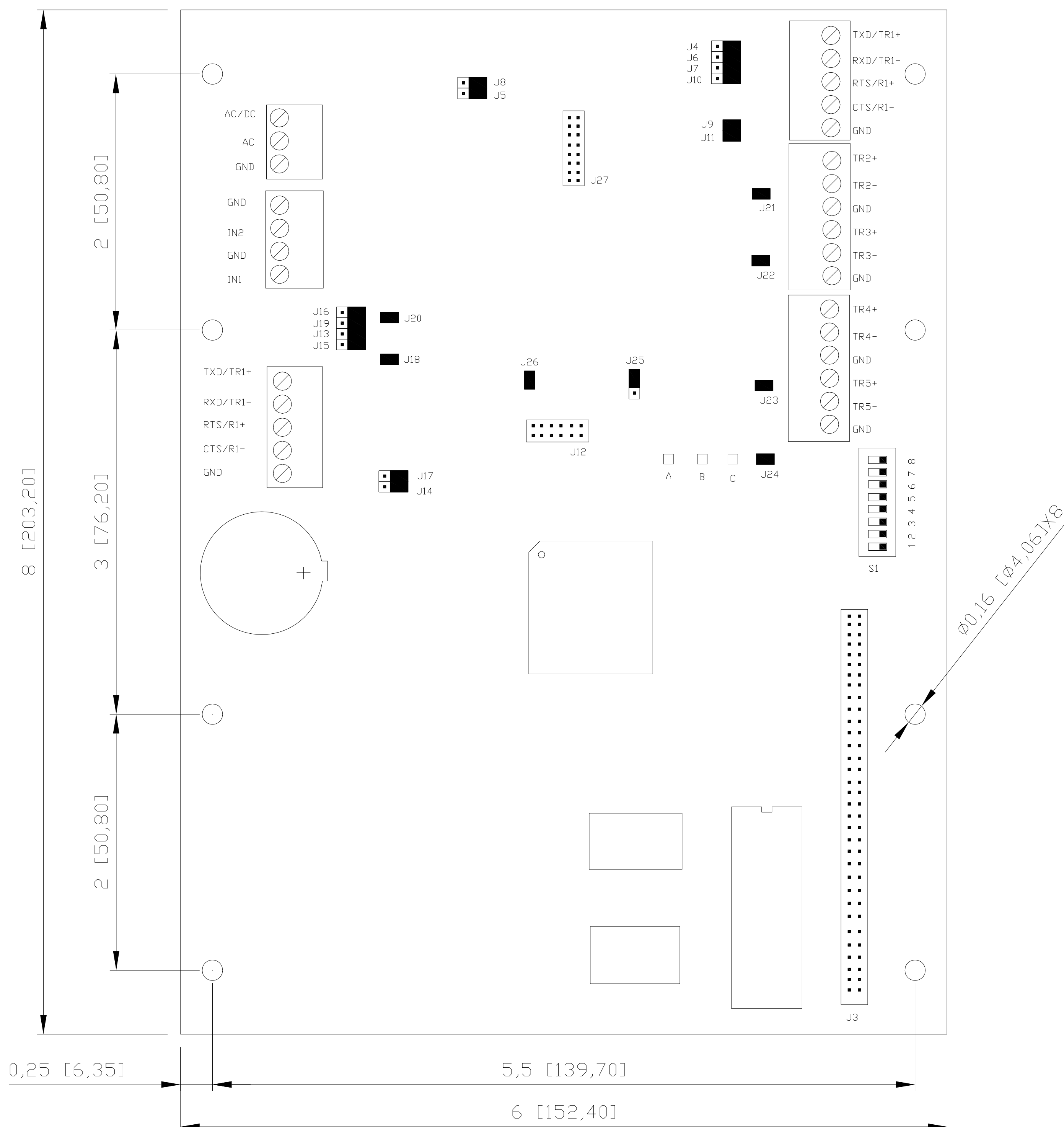
1. General

The SPM-E processor provides the real time processing for the I/O interfaces connected to it. It holds the data base for the subsystem configuration and card holders, the event log buffer in battery backed memory. Configuration data and event/status reports are communicated via port 1, the host port. I/O devices are connected via port 2 through port 6.

Port 1 may be set up as a RS-232, RS-485 or Ethernet 10baseT interface. RS-485 interface may be 2-wire or 4-wire type. Lantronix MSS-LITE of Cobox-Micro are supported NIC.

Port 2 through port 5 are 2-wire RS-485 interface. If 4-wire communication is required, port 2/3 and port 4/5 may be setup as two 4-wire interface via host configuration.

Port 6 may be set up as a RS-232 interface or a RS-485 interface. RS-485 interface may be 2-wire or 4-wire type.



2. Configuring the SPM-E Hardware:

The SPM-E processor hardware is configured with a number of jumper and a set of 8 switches. These jumpers/switches setup the memory chip size, port interface, end of line termination, processor address, and baud rate. Please refer to the tables.

JUMPERS	SET AT	SELECTED
J2	OFF	PROM CHIP SIZE IS 128K X 8 (FACTORY SETTING)
	ON	PROM CHIP SIZE IS 256K X 8 (FACTORY SETTING)
J4,5,6,7,10	232	PORT 1 IS RS-232 /LANTRONIX MSS-LITE
	485	PORT 1 IS RS-485
J26	OFF	PORT 1 IS LANTRONIX COBOX-MICRO
	ON	PORT 1 IS RS-232 /RS-485 /LANTRONIX MSS-LITE
J8	2W	PORT 1 IS 2-WIRE FOR RS-485 INTERFACE
	4W	PORT 1 IS 4-WIRE FOR RS-485 INTERFACE
J13,14,15,16,19	232	PORT 6 IS RS-232
	485	PORT 6 IS RS-485
J17	2W	PORT 6 IS 2-WIRE FOR RS-485 INTERFACE
	4W	PORT 6 IS 4-WIRE FOR RS-485 INTERFACE
J9,11	OFF	PORT 1 RS-485 EOL TERMINATOR IS NOT ON
	ON	PORT 1 RS-485 EOL TERMINATOR IS ON
J18,20	OFF	PORT 6 RS-485 EOL TERMINATOR IS NOT ON
	ON	PORT 6 RS-485 EOL TERMINATOR IS ON
J21	OFF	PORT 2 RS-485 EOL TERMINATOR IS NOT ON
	ON	PORT 2 RS-485 EOL TERMINATOR IS ON
J22	OFF	PORT 3 RS-485 EOL TERMINATOR IS NOT ON
	ON	PORT 3 RS-485 EOL TERMINATOR IS ON
J23	OFF	PORT 4 RS-485 EOL TERMINATOR IS NOT ON
	ON	PORT 4 RS-485 EOL TERMINATOR IS ON
J24	OFF	PORT 5 RS-485 EOL TERMINATOR IS NOT ON
	ON	PORT 5 RS-485 EOL TERMINATOR IS ON
J25	2-3	DEFAULT FOR PORT1 HIGH BAUD RATE FOR NIC

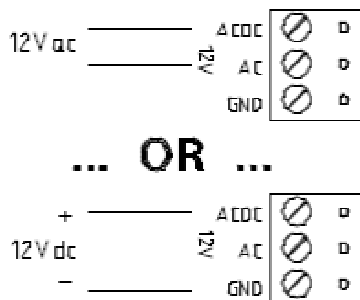
DIP Switches

S8	S7	S6	S5	S4	S3	S2	S1	SELECTION
					OFF	OFF	OFF	ADDRESS 0
					OFF	OFF	ON	ADDRESS 1
					OFF	ON	OFF	ADDRESS 2
					OFF	ON	ON	ADDRESS 3
					ON	OFF	OFF	ADDRESS 4
					ON	OFF	ON	ADDRESS 5
					ON	ON	OFF	ADDRESS 6
					ON	ON	ON	ADDRESS 7
				OFF				PORT 2: NO HARDWARE FLOW CONTROL
				ON				PORT 2: HARDWARE FLOW CONTROL
			OFF					PORT 1: NO HARDWARE FLOW CONTROL
			ON					PORT 1: HARDWARE FLOW CONTROL
	OFF	OFF						115,200 BPS
	OFF	ON						9,600 BPS
	ON	OFF						19,200 BPS
	ON	ON						38,400 BPS
OFF								NO PASSWORD
ON								PASSWORD LOGON REQUIRED

3. Supply Power to the Interface

The processor accepts either 12Vdc or 12Vac for power. Locate power source as closed to the unit as possible. Connect power with minimum of 18AWG wires.

Observe POLARITY for 12Vdc application!



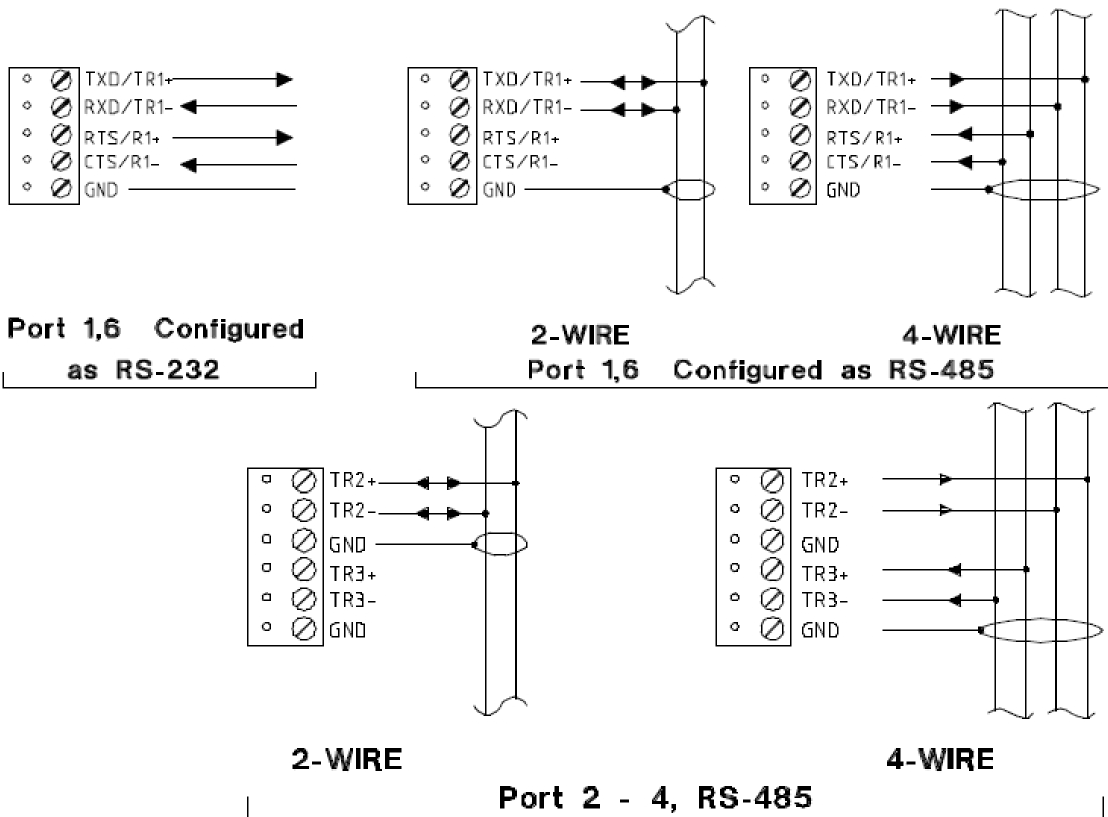
4. Communication Wiring

The SPM-E processor communicates to host via port 1. Port 1 may be set up as RS-232 or RS-485 interface. RS-232 interface is for direct one to one connection to a host computer port, via modem or a

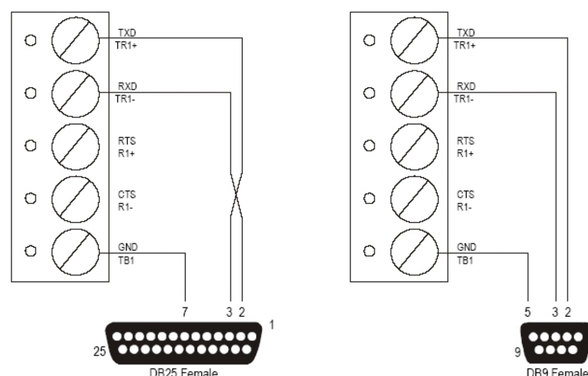
plug-in Ethernet module. When the Ethernet module is used, port 1 must be configured as a RS-232 interface.

Ports 2 - 5 are RS-485 interface, which may be configured for either 2-wire or 4-wire operation. The interface allows multi-drop communication on a single bus of up to 4,000 feet (1,200 m). Use twisted pairs (minimum 24 AWG) with shield for the communication. Install termination jumper only for end of line unit.

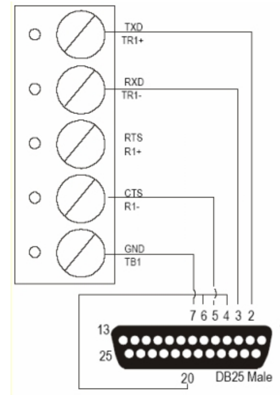
Port 6 may be set up as RS-232 or RS-485 interface.



Port 1 is either and RS-232 or RS-485 interface and is the communications port to the PC. Refer to the figure below for wiring to the PC communications port.

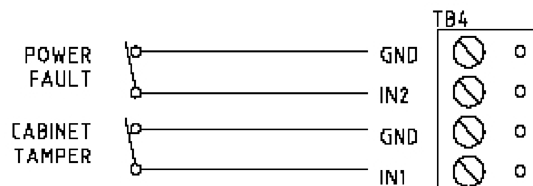


The SPM-E can also communicate via modem. Refer to the diagram below for wiring the SPM for a modem connection.



5. Alarm Inputs Wiring

Inputs 1 and 2 are for cabinet tamper and power fault monitoring. Normal (safe) condition is closed contact. If these inputs are not used, install a shorting wire.



6. Memory Backup Battery

The configuration data and the event buffer are backed up by a 3V lithium battery. This battery should be replaced annually.

7. Status LEDs

Power-up: All LED's OFF.

Initialization: Once power is applied, initialization of the module begins.

A: One brief flash indicating that hardware initialization has begun.

B: RAM test: ON during RAM test.

C: ON if the RAM is cleared during RAM test.

End of initialization: A, B and C LEDs are ON for one second, and then turned OFF.

If any initialization tests fail, the watchdog timer will reset the processor and testing will repeat. The watchdog timer interval is one second.

Running: After the above sequence, the LEDs have the following meanings:

A: Task Monitor: Flashes erratically.

B: Host Communication Indicator: Flashing indicates host communication.

C: SIO Communication Indicator: Flashing indicates SIO communication.

8. Technical Specifications - SPM-E

** The processor is for use in low voltage, class 2 circuit only.

Primary power (DC or AC) :

DC input: 12Vdc±10%, 400mA (550mA with NIC)

AC input: 12Vac±15%, 650mA RMS (800mA RMS with NIC)

Memory and Clock Backup: 3Volt Lithium, type BR2325

Data memory:

1Mb standard (optional memory module, J3)

Ports:

Port 1, 6 - RS-232 or RS-485, 2,400 to 38,400 bps, async

Port 2-5 - RS-485, 2-wire, 2,400 to 38,400 bps, async

Inputs:

2 non-supervised, normally closed contacts for Tamper and power fault

Wire requirement:

Power: 1 twisted pair, 18 AWG

RS-485: 24AWG, 4,000ft (1,200m) max., twisted pair(s) with shield.

RS-232: 24AWG, 25ft (7.6m) max.

Ethernet: Cat 5 per Lantronix

Alarm input: 1 twisted pair, 30 ohms max.

Environmental:

Temperature: 0 to 70 °C, operating; -55 to +85 °C, storage

Humidity: 0 to 95% RHNC

Mechanical:

Dimension: 6 in. (152mm) W x 8 in. (203mm) L x 1 in. (25mm) H

Weight: 10 oz (290 gm) nominal

Lantronix NIC support:

Standoff size - Dia. 0.125 inch x 7/16 inch

Richco Plastics part number LMSP-7-01, 3 pieces required

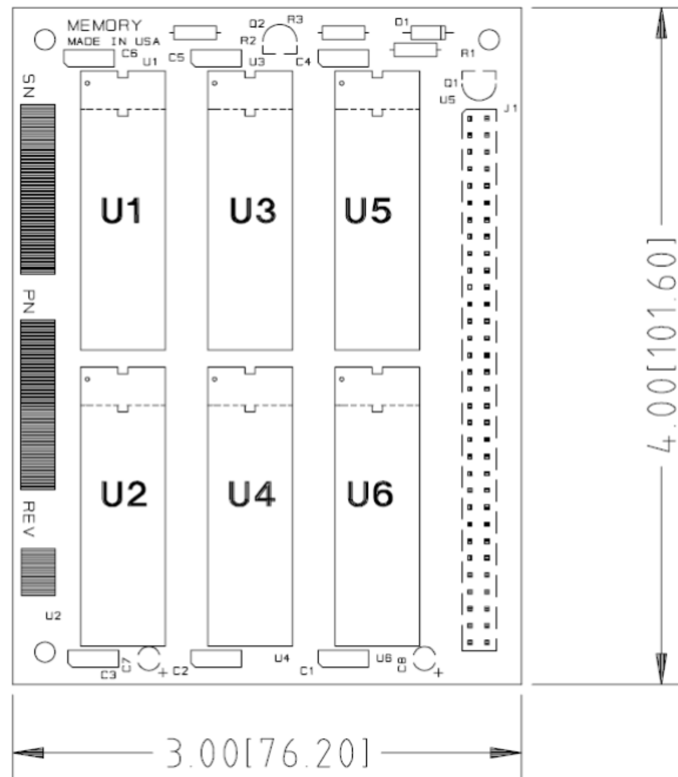
Specification subject to change without notice.

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Memory Expansion (SPM-MEM)

1. General

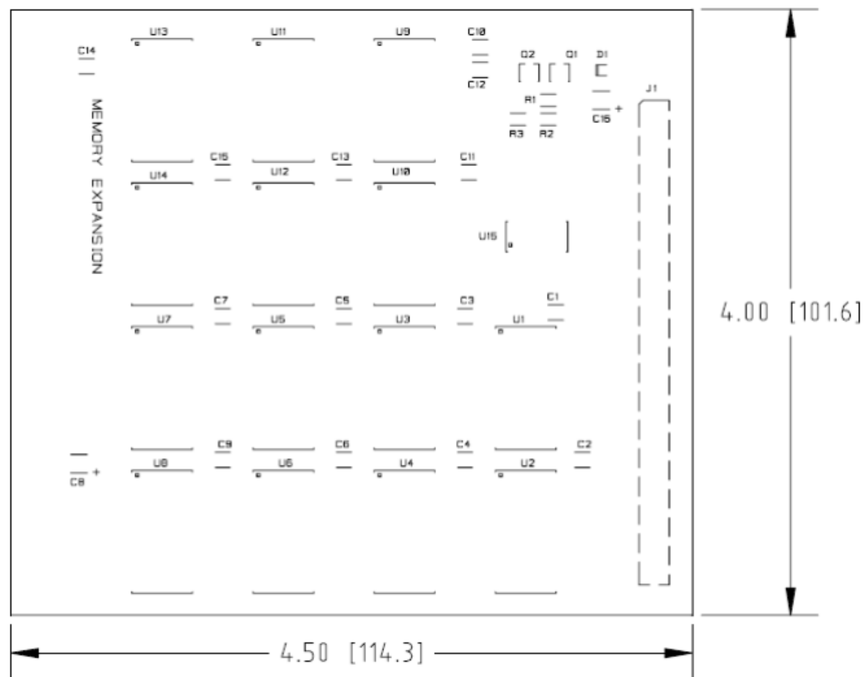
The Memory Expansion card for the SPM processor allows for additional memory to be added when data base requirement exceeds the capacity of the base memory on the SPM processor. The Memory card accommodates 3 banks of low power static RAMs for up to a total of 3 Megabytes. The memory is backed up by the lithium cell on the SPM processor.



Memory Expansion (SPM-MEM7)

1. General

The Memory Expansion card for the SPM-E processor allows for additional memory to be added when data base requirement exceeds the capacity of the base memory on the SPM -E processor. The Memory card adds 7 Mb to the SCP-E's 1 Mb for a total of 8 Mb of data memory. The memory is backed up by the lithium cell on the SPM -E processor.



Dual Door Module (DDM)

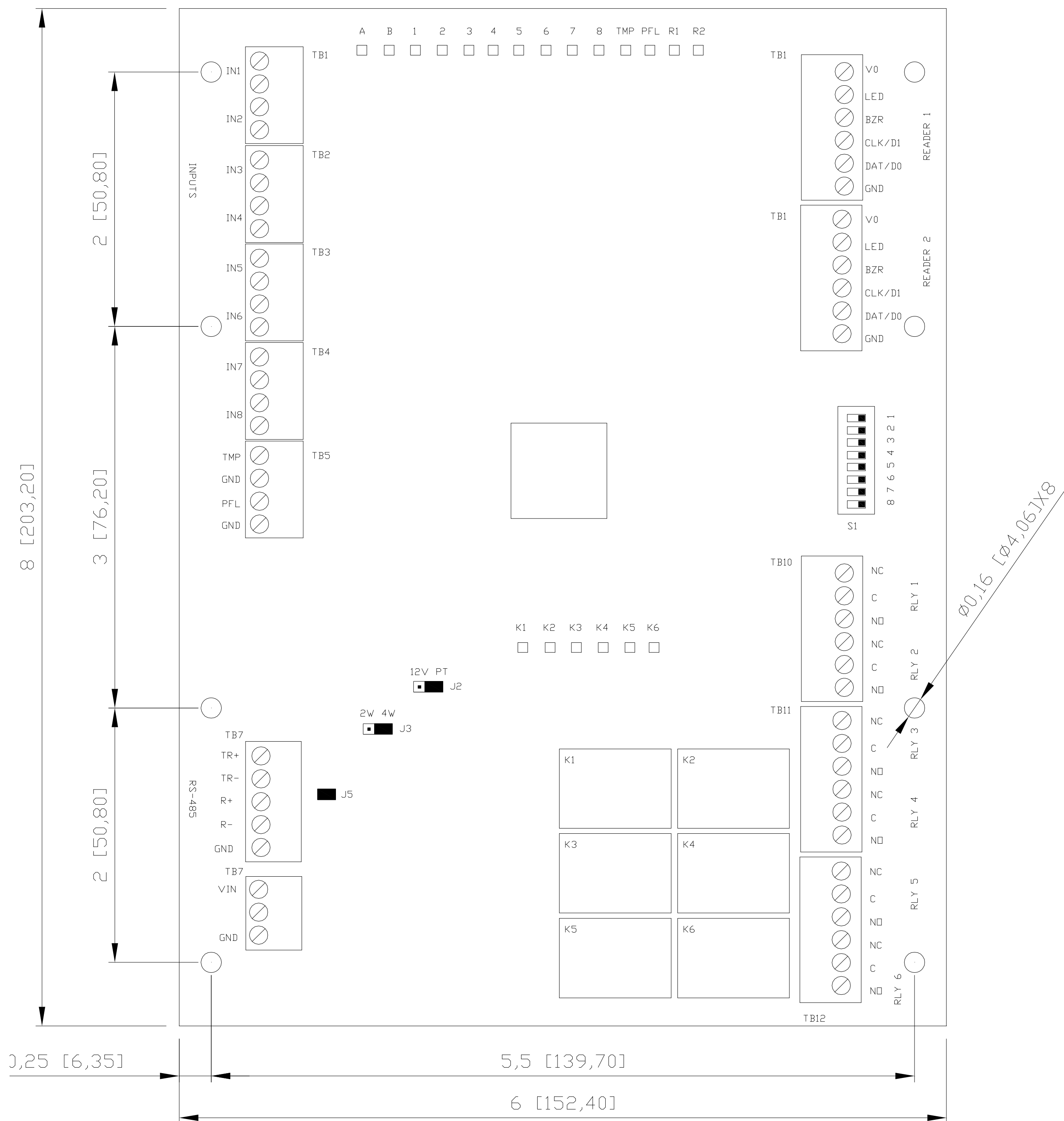
Installation and Specifications:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



1. General

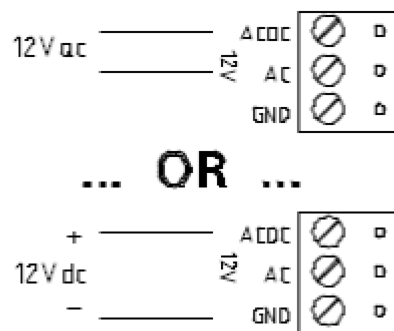
The Dual Door Module (DDM) provides a solution for interfacing to TTL/Wiegand type readers and door hardware. The DDM can accept data from reader with clock/data or Wiegand signaling and provide a tri-stated LED control and buzzer control. Six form-C relay outputs may be used for strike control or alarm signaling. Eight supervised inputs are provided for monitoring the door contact, exit push button and alarm contacts. Communication to the interface is accomplished via a 2 or 4-wire RS-485 interface. The DDM requires either 12Vdc or 12Vac for power. The DDM is 6 x 8 inches in size with mounting holes along the longer edges. See following figure for component location.



A
B
1
2
3
4
5
6
7
8
TMP
PFL
R1
R2
TB1
IN1
IN2
TB2
IN3
IN4
INPUTS
TB3
IN5
IN6
TB4
IN7
IN8
TB5
TMP
GND
PFL
GND
V0
LED
BZR
CLK/D1
DAT/D0
GND
READER 1
READER 2
S1
TB10
NC
C
NO
RLY 1
RLY 2
TB11
RLY 3
RLY 4
RLY 5
RLY 6
TB12
K1
K2
K3
K4
K5
K6
12V PT
J2
2W 4W
J3
J5
TB7
TR+
TR-
R+
R-
GND
RS-485
VIN
Ø0,16 [Ø4,06]X8
8 [203,20]
2 [50,80]
3 [76,20]
0,25 [6,35]
5,5 [139,70]
6 [152,40]

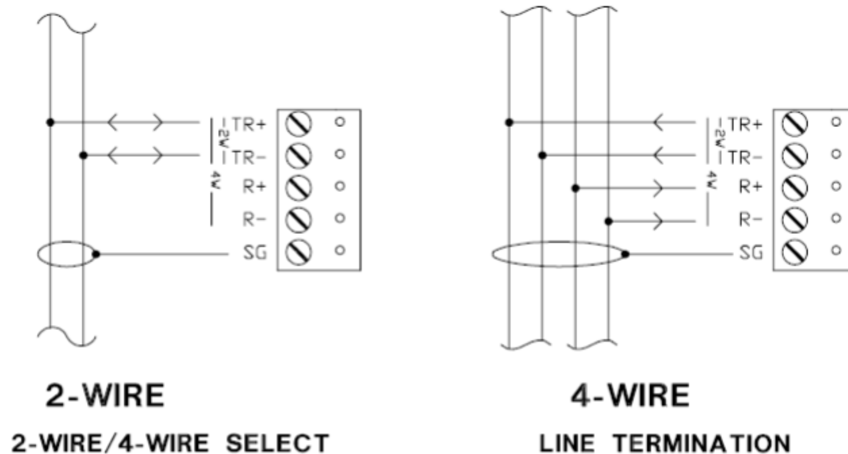
2. Supply Power to the Interface

The DDM accepts either 12Vdc or 12Vac for power. Locate the power source as closed to the interface as possible. Make power connection with minimum of 18AWG wires. The input voltage is filtered and regulated to 5Vdc or 12Vdc. The filtered or the regulated voltage is available for powering the readers. The selection is made via jumpers and is available at both reader terminals.



3. Communication Wiring

The DDM communicates to host controller via a RS-485 interface, which may be set for either 2-wire or 4-wire configuration. The interface allows for multi-drop communication on a bus of up to 4,000 feet (1,200 m). Use twisted pair(s) (minimum 24AWG) with shield for communication. See specification. Install jumpers according to the selected configuration.



2W 4W J3 — INSTALL JUMPER ON 2W FOR 2-WIRE INTERFACE

2W 4W J3 — INSTALL JUMPER ON 4W FOR 4-WIRE INTERFACE

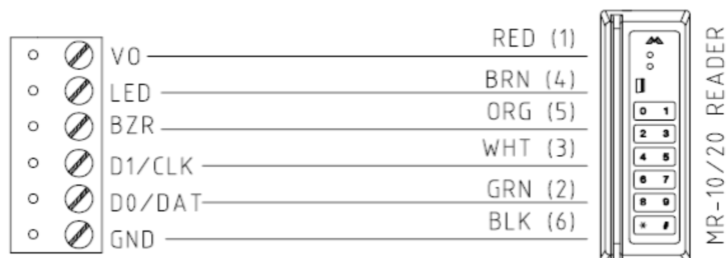
J5, J6 — FOR INTERFACES AT THE END OF COMMUNICATION LINE, INSTALL JUMPERS J5, J6 TO ENGAGE THE 120 OHM LINE TERMINATOR

4. Reader Wiring

Each reader port supports a reader with TTL interface. Power to the reader is selectable as 5Vdc, 12Vdc, or input voltage pass-through. This selection is done via setting of jumpers J2 and J4. For selection of 12Vdc, the interface must be powered by 12Vac source. This selection is made for both reader ports. For readers require different voltage or current capability, they must be powered via different means.

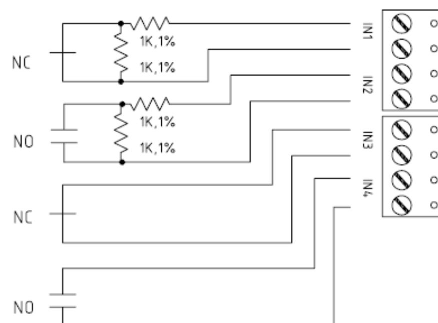
To fully utilize each reader port, a 6-conductor cable (18AWG) is required. Reader port configuration is set via host software.

RDR PWR REG UNREG / IN 5V OUT 12V	
J2 J4	5Vdc IS AVAILABLE ON READER PORTS
J2 J4	12Vdc IS AVAILABLE ON READER PORTS, (12Vac SUPPLY REQUIRED)
J2	POWER TO THE INTERFACE IS AVAILABEL ON THE READER PORTS



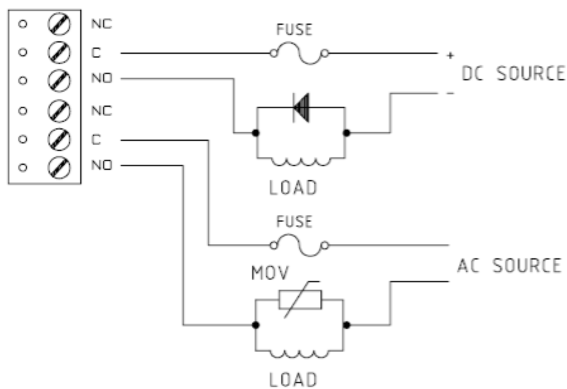
5. Alarm Contact Wiring

Inputs 1 to 8 may be configured to use or not to use End-Of-Line (EOL) resistors, and for normally open or normally closed contacts. Inputs 9 and 10 are typically used for monitoring cabinet tamper and power failure. These 2 inputs are for contact closure monitoring only. They do not use EOL resistor(s). Input configuration is set via host software.



6. Control Output Wiring

Six form-C relay contacts are provided for controlling door strike or other devices. Load switching can cause contact abnormal wear and premature contact failure. Switching of inductive loads (strike) also causes EMI (electromagnetic interference) which may interfere with normal operation of other equipments. To minimize contact premature failure and to increase system reliability, contact protection circuit must be used. The following two circuits are recommended. Locate the protection circuit as close to the load as possible (within 12 inches [30cm]), as the effectiveness of the circuit will decrease if it is located far away. Use sufficiently large gauge of wires for the load current as to avoid voltage loss.



DIODE SELECTION:

DIODE CURRENT RATING > 1 X STRIKE CURRENT
DIODE BREAK DOWN VOLTAGE: 4X STRIKE VOLTAGE
FOR 12Vdc or 24Vdc STRIKE, DIODE 1N4002 (100V / 1A) TYPICAL

MOV SELECTION:

CLAMP VOLTAGE > 1.5 X Vac RMS
FOR 24Vac STRIKE, PANASONIC ERZ-C07DK470 TYPICAL

7. DIP Switch Usage

Switches 1 to 5 select the device address. Switch 6 and 7 select the communication baud rate. Communication on the RS-485 serial port is asynchronous, half-duplex with 1 start bit, 8 data bits and 1 stop bit.

S8	S7	S6	S5	S4	S3	S2	S1	SELECTION
			OFF	OFF	OFF	OFF	OFF	ADDRESS 0
			OFF	OFF	OFF	OFF	ON	ADDRESS 1
			OFF	OFF	OFF	ON	OFF	ADDRESS 2
			OFF	OFF	OFF	ON	ON	ADDRESS 3
			OFF	OFF	ON	OFF	OFF	ADDRESS 4
			OFF	OFF	ON	OFF	ON	ADDRESS 5
			OFF	OFF	ON	ON	OFF	ADDRESS 6
			OFF	OFF	ON	ON	ON	ADDRESS 7
			OFF	ON	OFF	OFF	OFF	ADDRESS 8
			OFF	ON	OFF	OFF	ON	ADDRESS 9
			OFF	ON	OFF	ON	OFF	ADDRESS 10
			OFF	ON	OFF	ON	ON	ADDRESS 11
			OFF	ON	ON	OFF	OFF	ADDRESS 12
			OFF	ON	ON	OFF	ON	ADDRESS 13
			OFF	ON	ON	ON	OFF	ADDRESS 14
			OFF	ON	ON	ON	ON	ADDRESS 15
			ON	OFF	OFF	OFF	OFF	ADDRESS 16
			ON	OFF	OFF	OFF	ON	ADDRESS 17
			ON	OFF	OFF	ON	OFF	ADDRESS 18
			ON	OFF	OFF	ON	ON	ADDRESS 19
			ON	OFF	ON	OFF	OFF	ADDRESS 20
			ON	OFF	ON	OFF	ON	ADDRESS 21
			ON	OFF	ON	ON	OFF	ADDRESS 22
			ON	OFF	ON	ON	ON	ADDRESS 23
			ON	ON	OFF	OFF	OFF	ADDRESS 24
			ON	ON	OFF	OFF	ON	ADDRESS 25
			ON	ON	OFF	ON	OFF	ADDRESS 26
			ON	ON	OFF	ON	ON	ADDRESS 27
			ON	ON	ON	OFF	OFF	ADDRESS 28
			ON	ON	ON	OFF	ON	ADDRESS 29
			ON	ON	ON	ON	OFF	ADDRESS 30
			ON	ON	ON	ON	ON	ADDRESS 31
	OFF	OFF						2,400 BPS
	OFF	ON						9,600 BPS
	ON	OFF						19,200 BPS
	ON	ON						38,400 BPS
OFF								NOT USED

8. Status LEDs:

Power-up: All LED’s OFF.

Initialization: Once power is applied, initialization of the module begins.

The BOOT code will turn ON LEDA after the initialization of the registers is completed. If the BOOT code cannot complete the initialization, the watchdog timer will reset the module after about one second.

If the BOOT code cannot launch the LOADER code: LEDA will be ON, LEDB will be OFF

If the LOADER cannot launch the application code: LEDA will flash (heartbeat (off-line), see below), LEDB will display communication activity.

After hardware initialization is complete, LEDs 1 through 8 LED TMP and LED PFL are sequenced at a 200mS rate.

Running: After the above sequence, the LEDs have the following meanings:

LEDA: Heartbeat and On-Line Status:

Off-line: 1 second rate, OFF for 90% (900mS) ON for 10% (100mS).

On-line: 1 second rate, OFF for 10% (100mS) ON for 90% (900mS).

LEDB: SIO Communication Port Status:

Indicate communication activity on the SIO communication port.

LED1: Input Status for IN1

LED2: Input Status for IN2

LED3: Input Status for IN3

LED4: Input Status for IN4

LED5: Input Status for IN5

LED6: Input Status for IN6

LED7: Input Status for IN7

LED8: Input Status for IN8

Input in the inactive state: OFF

Input in the active state: ON.

Input in a trouble state: Flash, (100mS: ON, 100mS: OFF).

LED R1: Reader 1 activity:

ON when the card is presented to the Reader 1.

LED R2: Reader 2 activity:

ON when the card is presented to the Reader 2.

LED TMP: Input Status for TPM

LED PFL: Input Status for PFL

LED1 through LED8, LED TMP and LED PFL:

Every 3 seconds the LED will change state for 50mS.

LED K1: Illuminates when output relay K1 is energized.

LED K2: Illuminates when output relay K2 is energized.

LED K3: Illuminates when output relay K3 is energized.

LED K4: Illuminates when output relay K4 is energized.

LED K5: Illuminates when output relay K5 is energized.

LED K6: Illuminates when output relay K6 is energized.

9. Technical Specification – DDM

** The processor is for use in low voltage, class 2 circuit only.

Primary power:

12Vdc±10% 400mA

12Vac±15% 600mA

Relay contacts:

6 outputs, Form-C, 5A @ 28Vdc, resistive

Inputs:

8 supervised, End of Line resistors, 1k/1k ohm standard

2 unsupervised

Reader interface:

Reader power - 5Vdc(5 - 6.2), 12Vdc(10.8 - 13.2) nominal or unregulated, 75mA max. each

Reader LED output - TTL compatible, high > 3V, low < 0.5V, 5mA source/sink max.

Reader buzzer output - Open collector, 5Vdc open circuit max. 10mA sink max.

Reader data inputs - TTL compatible inputs

Communication:

RS-485, 2-wire or 4-wire, 2,400 to 38,400bps

Wire requirements:

Power: 1 twisted pair, 18AWG

RS-485: 24AWG, 4,000feet (1,200m) max., twisted pair(s) with shield

Alarm inputs: 1 twisted pair per input, 30 ohms max.

Outputs: as required for the load

Reader: 6 conductors, 18AWG, 500 feet (150m) max.

Environment:

Temperature - -55°C to +85°C, storage; 0°C to +70°C, operating

Humidity - 0% to 95% RHNC

Mechanical:

Dimension - 6" (152mm)W x 8" (203mm)L x 1" (25mm)H

Weight - 12 oz. (340g) nominal

Specification subject to change without notice.

The DDM should only be used to control exits from areas where an alternative method for exit is available. This product is not intended for, nor is rated for operation in life-critical control applications. Digital Horizon Solutions, LLC is not liable under any circumstances for loss or damage caused by or partially caused by the misapplication or malfunction of the product. Digital Horizon Solutions, LLC's liability does not extend beyond the purchase price of the product.

Input Control Module (ICM)

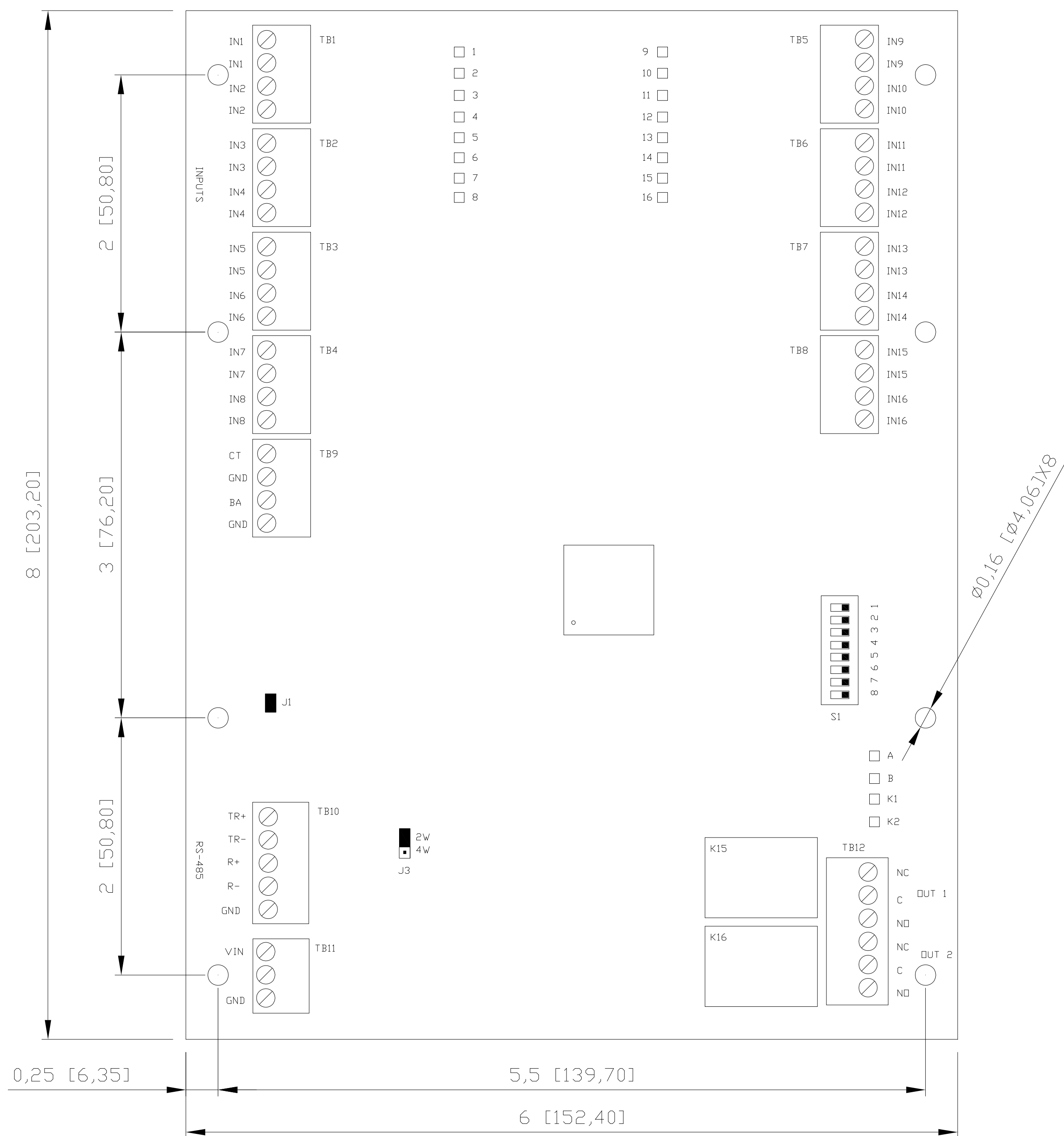
Installation and Specifications:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



1. General

The Input Control Module (ICM) processor provides sensor interface and output controls for security/ access control and other applications. The controller has 16 input channels for supervised contact monitoring and 2 form-C contacts for load switching. In addition, 2 digital inputs may be used for tamper and UPS status monitoring. The processor requires either 12Vdc or 12Vac for power.

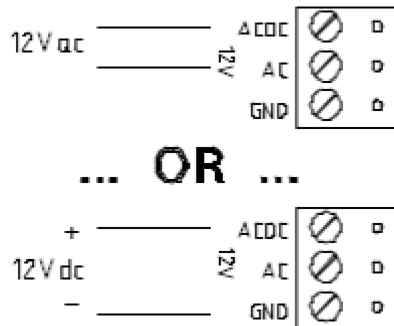


IN1
IN1
IN2
IN2
TB1
IN3
IN3
IN4
IN4
TB2
INPUTS
IN5
IN5
IN6
IN6
TB3
IN7
IN7
IN8
IN8
TB4
CT
GND
BA
GND
TB9
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
TB5
IN9
IN9
IN10
IN10
TB6
IN11
IN11
IN12
IN12
TB7
IN13
IN13
IN14
IN14
TB8
IN15
IN15
IN16
IN16
8 [203,20]
2 [50,80]
3 [76,20]
2 [50,80]
Ø0,16 [Ø4,06]X8
1 2 3 4 5 6 7 8
S1
J1
A
B
K1
K2
TR+
TR-
R+
R-
GND
TB10
RS-485
2W
4W
J3
VIN
GND
TB11
K15
K16
TB12
NC
C
NO
OUT 1
NC
C
NO
OUT 2
0,25 [6,35]
5,5 [139,70]
6 [152,40]

2. Supply Power to the Interface

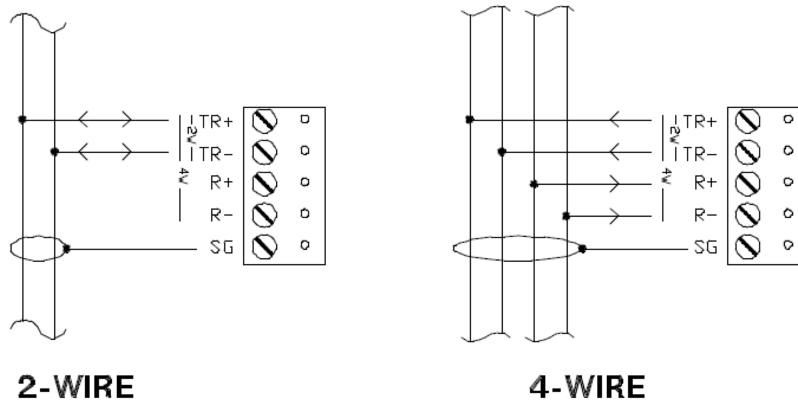
The ICM accepts either 12Vdc or 12Vac for power. Locate power source as closed to the unit as possible. Connect power with minimum of 18AWG wires.

Observe POLARITY for 12Vdc application!

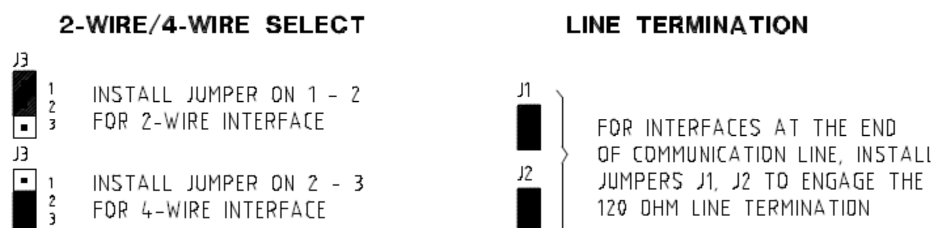


3. Communication Wiring

The ICM communicates to host via a RS-485 interface, which may be configured for either 2-wire or 4-wire operation. The interface allows multi-drop communication on a single bus of up to 4,000 feet (1,200 m). Use twisted pair(s) (minimum 24 AWG) with shield for the communication.

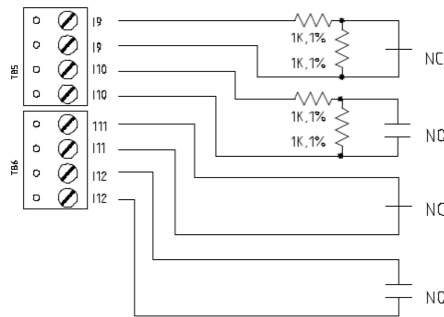


Install the following jumpers for the RS-485 interface according to the selected configuration



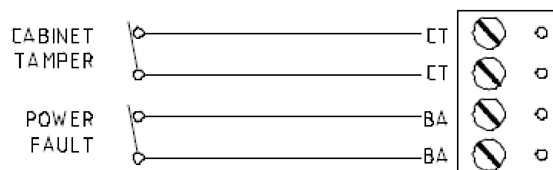
4. Alarm Inputs Wiring

Inputs 1 to 16 may be configured to use or not to use End Of Line (EOL) resistors and to use normally open or normally closed contacts.



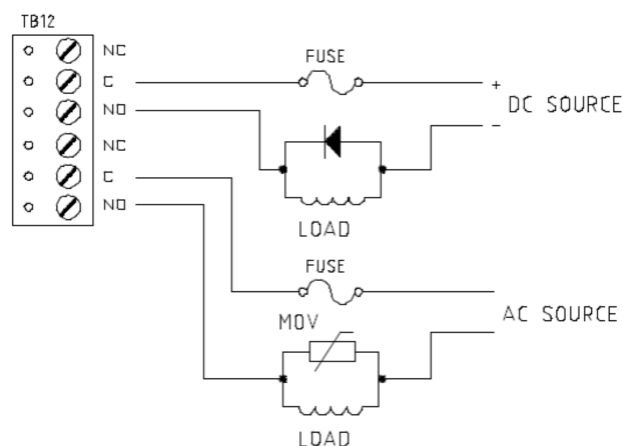
5. Inputs for Cabinet Tamper/Power Fault

Input CT and input BA are typically used for monitoring cabinet tamper and power failure with normally closed contacts. These two inputs are for contact closure monitoring only, and do not use EOL resistor(s). If these inputs are not used, install a short piece of wire at the input to indicated safe condition.



6. Relay Outputs

The following show typical use of the relay outputs. DC source is recommended whenever it is possible. Transient clamping must be provided to protect the contact and to reduce EMI emission. Use sufficiently large wires for the load current to avoid voltage loss.



7. DIP Switch Usage

Switches 1 to 5 select the devices communication address. Switches 6 and 7 select the communication baud rate. Communication on the RS-485 serial port is asynchronous, half-duplex with 1 start bit, 8 data bits and 1 stop bit.

S8	S7	S6	S5	S4	S3	S2	S1	SELECTION
			OFF	OFF	OFF	OFF	OFF	ADDRESS 0
			OFF	OFF	OFF	OFF	ON	ADDRESS 1
			OFF	OFF	OFF	ON	OFF	ADDRESS 2
			OFF	OFF	OFF	ON	ON	ADDRESS 3
			OFF	OFF	ON	OFF	OFF	ADDRESS 4
			OFF	OFF	ON	OFF	ON	ADDRESS 5
			OFF	OFF	ON	ON	OFF	ADDRESS 6
			OFF	OFF	ON	ON	ON	ADDRESS 7
			OFF	ON	OFF	OFF	OFF	ADDRESS 8
			OFF	ON	OFF	OFF	ON	ADDRESS 9
			OFF	ON	OFF	ON	OFF	ADDRESS 10
			OFF	ON	OFF	ON	ON	ADDRESS 11
			OFF	ON	ON	OFF	OFF	ADDRESS 12
			OFF	ON	ON	OFF	ON	ADDRESS 13
			OFF	ON	ON	ON	OFF	ADDRESS 14
			OFF	ON	ON	ON	ON	ADDRESS 15
			ON	OFF	OFF	OFF	OFF	ADDRESS 16
			ON	OFF	OFF	OFF	ON	ADDRESS 17
			ON	OFF	OFF	ON	OFF	ADDRESS 18
			ON	OFF	OFF	ON	ON	ADDRESS 19
			ON	OFF	ON	OFF	OFF	ADDRESS 20
			ON	OFF	ON	OFF	ON	ADDRESS 21
			ON	OFF	ON	ON	OFF	ADDRESS 22
			ON	OFF	ON	ON	ON	ADDRESS 23
			ON	ON	OFF	OFF	OFF	ADDRESS 24
			ON	ON	OFF	OFF	ON	ADDRESS 25
			ON	ON	OFF	ON	OFF	ADDRESS 26
			ON	ON	OFF	ON	ON	ADDRESS 27
			ON	ON	ON	OFF	OFF	ADDRESS 28
			ON	ON	ON	OFF	ON	ADDRESS 29
			ON	ON	ON	ON	OFF	ADDRESS 30
			ON	ON	ON	ON	ON	ADDRESS 31
	OFF	OFF						2,400 BPS
	OFF	ON						9,600 BPS
	ON	OFF						19,200 BPS
	ON	ON						38,400 BPS
OFF								NOT USED

8. Status LEDs

Power-up: All LED’s OFF.

Initialization: Once power is applied, initialization of the module begins.

The BOOT code will turn ON LEDA after the initialization of the registers is completed. If the BOOT code cannot complete the initialization, the watchdog timer will reset the module after about one second.

If the BOOT code cannot launch the LOADER code: LEDA will be ON, LEDB will be OFF

If the LOADER cannot launch the application code: LEDA will flash (heartbeat (off-line), see below), LEDB will display communication activity.

After hardware initialization is complete, LEDs 1 through 8 LED CT and LED BA are sequenced at a 200mS rate.

Running: After the above sequence, the LEDs have the following meanings:

LEDA: Heartbeat and On-Line Status:

Off-line: 1 second rate, OFF for 90% (900mS) ON for 10% (100mS).

On-line: 1 second rate, OFF for 10% (100mS) ON for 90% (900mS).

LEDB: SIO Communication Port Status:

Indicate communication activity on the SIO communication port.

LED1 throught LED 16: Input Status for IN1 throught IN16

Input in the inactive state: OFF

Input in the active state: ON.

Input in a trouble state: Flash, (100mS: ON, 100mS: OFF).

LED CT: Input Status for CT

LED BA: Input Status for BA

LED1 through LED16, LED CT and LED BA

Every 3 seconds the LED will change state for 50mS.

LED K1: Illuminates when output relay K1 is energized.

LED K2: Illuminates when output relay K2 is energized.

9. Technical Specification - ICM

** The processor is for use in low voltage, class 2 circuit only.

Primary power:

DC input: 12Vdc±10%, 350mA

AC input: 12Vac±15%, 500mA RMS

Relay contacts:

2 form C, 5A 28Vdc, Resistive.

Inputs:

16 supervised, End of Line resistors, 1k/1k ohm standard

2 unsupervised , normally closed contacts for Tamper and power fault

Communication:

RS-485, 2-wire or 4-wire, 2,400 to 38,400bps

Wire requirements:

Power: 1 twisted pair, 18AWG

RS-485: 24AWG, 4,000feet (1,200m) max., twisted pair(s) with shield

Alarm inputs: 1 twisted pair per input, 30 ohms max.

Outputs: as required for the load

Environment:

Temperature - -55°C to +85°C, storage; 0°C to +70°C, operating

Humidity - 0% to 95% RHNC

Mechanical:

Dimension: 6 in. (152mm) W x 8 in. (203mm) L x 1 in. (25mm) H

Weight: 10 oz (290 gm) nominal

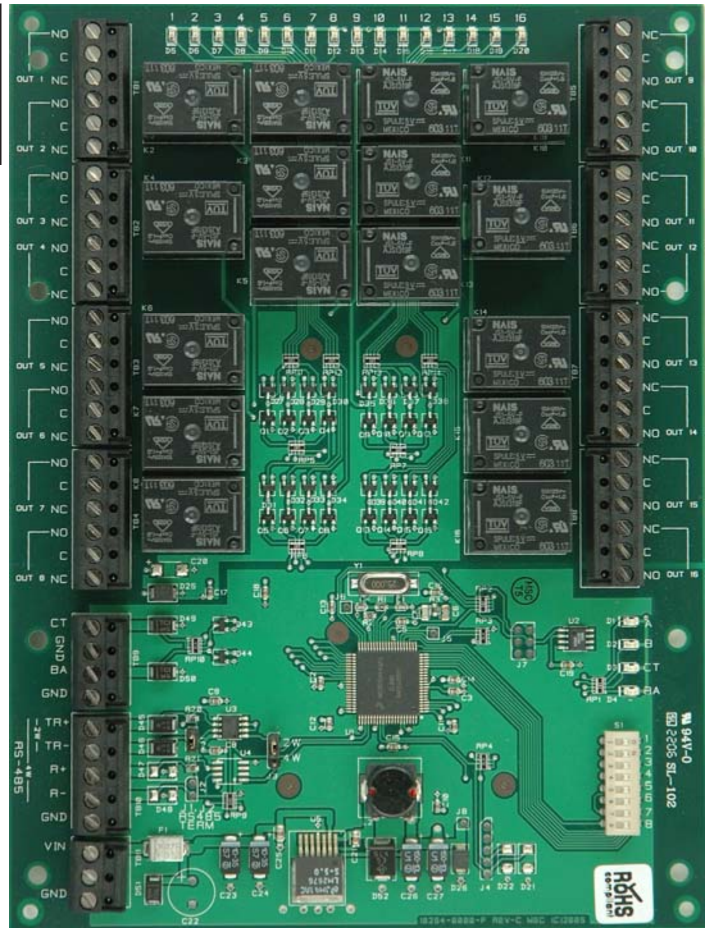
Specification subject to change without notice.

The ICM should only be used to control exits from areas where an alternative method for exit is available. This product is not intended for, nor is rated for operation in life-critical control applications. Digital Horizon Solutions, LLC is not liable under any circumstances for loss or damage caused by or partially caused by the misapplication or malfunction of the product. Digital Horizon Solutions, LLC's liability does not extend beyond the purchase price of the product.

Output Control Module (OCM)

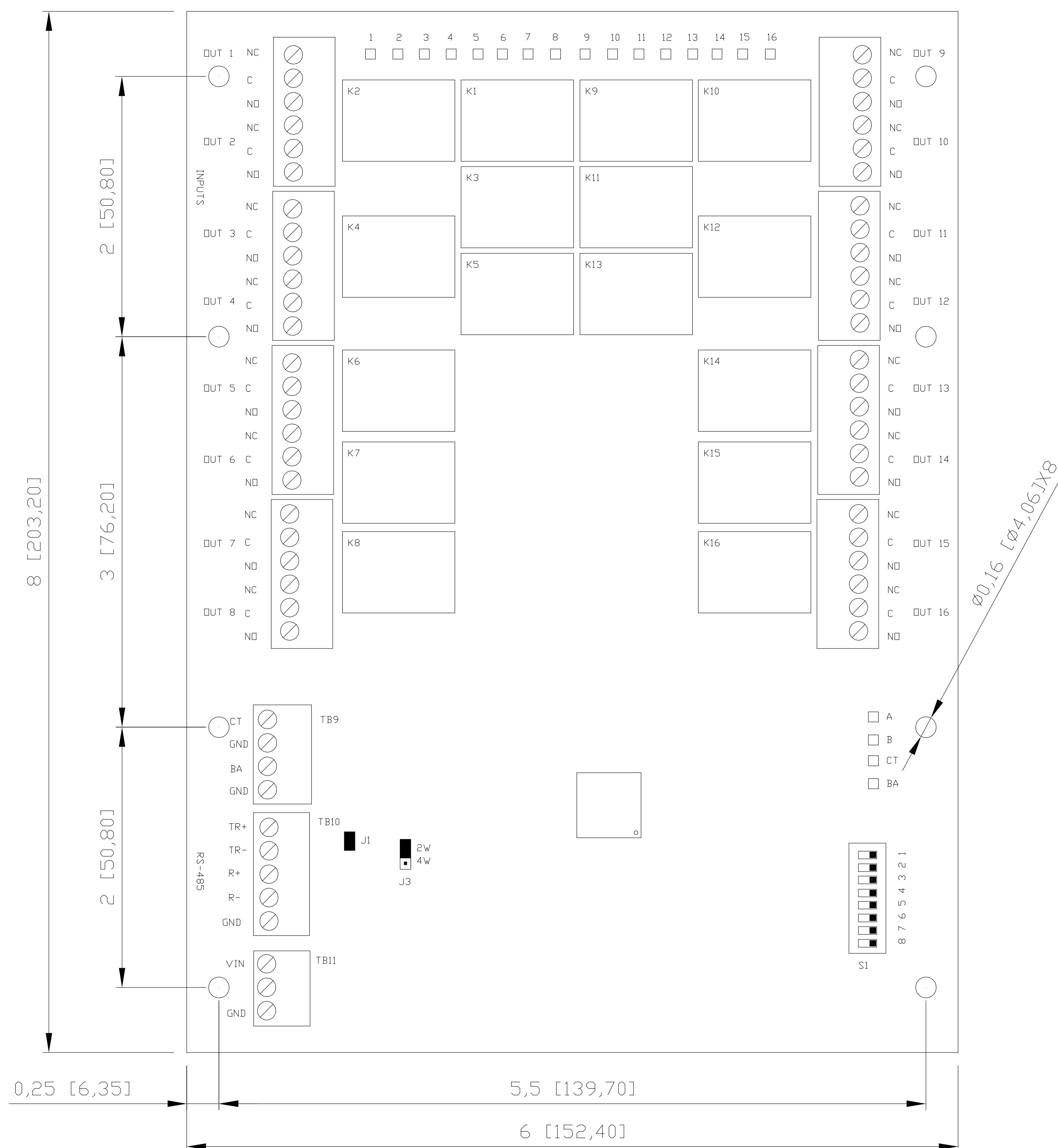
Installation and Specifications:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



1. General

The OCM processor provides output controls for security/access control and other applications. The controller has 16 form-C contacts for load switching. In addition, 2 digital inputs may be used for tamper and UPS status monitoring. The processor requires either 12Vdc or 12Vac for power.

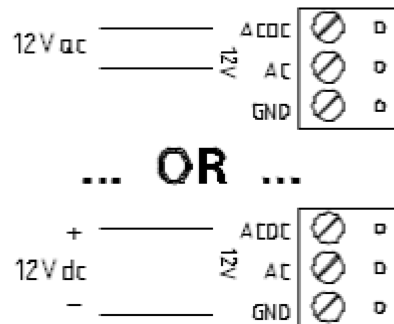


OUT 1
NC
C
NO
OUT 2
INPUTS
OUT 3
OUT 4
OUT 5
OUT 6
OUT 7
OUT 8
OUT 9
OUT 10
OUT 11
OUT 12
OUT 13
OUT 14
OUT 15
OUT 16
K1
K2
K3
K4
K5
K6
K7
K8
K9
K10
K11
K12
K13
K14
K15
K16
CT
GND
BA
TB9
TR+
TR-
R+
R-
RS-485
TB10
J1
2W
4W
J3
VIN
TB11
A
B
S1
8 7 6 5 4 3 2 1
2 [50,80]
3 [76,20]
8 [203,20]
Ø0,16 [Ø4,06]X8
0,25 [6,35]
5,5 [139,70]
6 [152,40]

2. Supply Power to the Interface

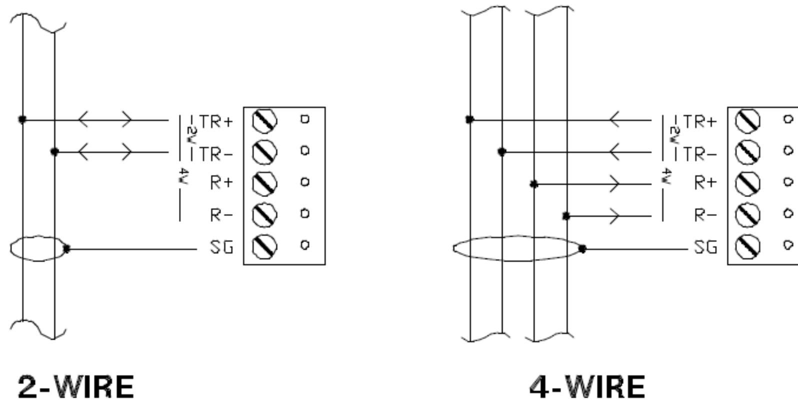
The OCM accepts either 12Vdc or 12Vac for power. Locate power source as closed to the unit as possible. Connect power with minimum of 18AWG wires.

Observe POLARITY for 12Vdc application!

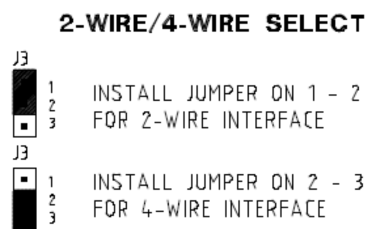


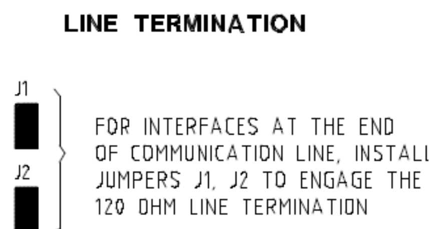
3. Communication Wiring

The ICM communicates to host via a RS-485 interface, which may be configured for either 2-wire or 4-wire operation. The interface allows multi-drop communication on a single bus of up to 4,000 feet (1,200 m). Use twisted pair(s) (minimum 24 AWG) with shield for the communication.



Install the following jumpers for the RS-485 interface according to the selected configuration





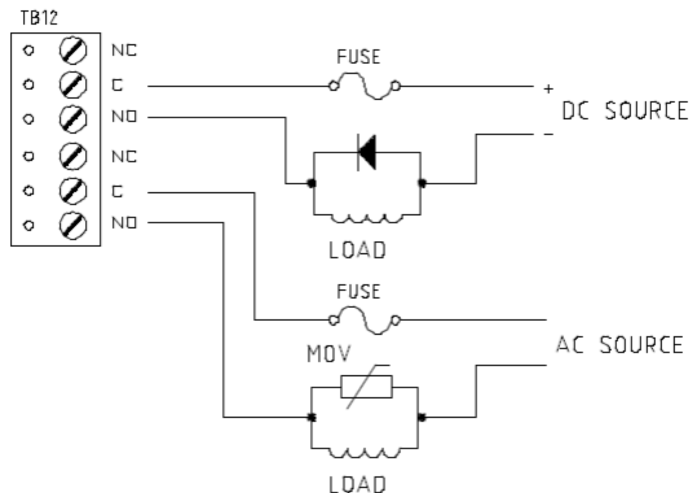
4. Inputs for Cabinet Tamper/Power Fault:

Input CT and input BA are typically used for monitoring cabinet tamper and power failure with normally closed contacts. These two inputs are for contact closure monitoring only, and do not use EOL resistor(s). If these inputs are not used, install a short piece of wire at the input to indicated safe condition.



5. Relay Outputs

The following show typical use of the relay outputs. DC source is recommended whenever it is possible. Transient clamping must be provided to protect the contact and to reduce EMI emission. Use sufficiently large wires for the load current to avoid voltage loss.



6. DIP Switch Usage

Switches 1 to 5 select the devices communication address. Switches 6 and 7 select the communication baud rate. Communication on the RS-485 serial port is asynchronous, half-duplex with 1 start bit, 8 data bits and 1 stop bit.

S8	S7	S6	S5	S4	S3	S2	S1	SELECTION
			OFF	OFF	OFF	OFF	OFF	ADDRESS 0
			OFF	OFF	OFF	OFF	ON	ADDRESS 1
			OFF	OFF	OFF	ON	OFF	ADDRESS 2
			OFF	OFF	OFF	ON	ON	ADDRESS 3
			OFF	OFF	ON	OFF	OFF	ADDRESS 4
			OFF	OFF	ON	OFF	ON	ADDRESS 5
			OFF	OFF	ON	ON	OFF	ADDRESS 6
			OFF	OFF	ON	ON	ON	ADDRESS 7
			OFF	ON	OFF	OFF	OFF	ADDRESS 8
			OFF	ON	OFF	OFF	ON	ADDRESS 9
			OFF	ON	OFF	ON	OFF	ADDRESS 10
			OFF	ON	OFF	ON	ON	ADDRESS 11
			OFF	ON	ON	OFF	OFF	ADDRESS 12
			OFF	ON	ON	OFF	ON	ADDRESS 13
			OFF	ON	ON	ON	OFF	ADDRESS 14
			OFF	ON	ON	ON	ON	ADDRESS 15
			ON	OFF	OFF	OFF	OFF	ADDRESS 16
			ON	OFF	OFF	OFF	ON	ADDRESS 17
			ON	OFF	OFF	ON	OFF	ADDRESS 18
			ON	OFF	OFF	ON	ON	ADDRESS 19
			ON	OFF	ON	OFF	OFF	ADDRESS 20
			ON	OFF	ON	OFF	ON	ADDRESS 21
			ON	OFF	ON	ON	OFF	ADDRESS 22
			ON	OFF	ON	ON	ON	ADDRESS 23
			ON	ON	OFF	OFF	OFF	ADDRESS 24
			ON	ON	OFF	OFF	ON	ADDRESS 25
			ON	ON	OFF	ON	OFF	ADDRESS 26
			ON	ON	OFF	ON	ON	ADDRESS 27
			ON	ON	ON	OFF	OFF	ADDRESS 28
			ON	ON	ON	OFF	ON	ADDRESS 29
			ON	ON	ON	ON	OFF	ADDRESS 30
			ON	ON	ON	ON	ON	ADDRESS 31
	OFF	OFF						2,400 BPS
	OFF	ON						9,600 BPS
	ON	OFF						19,200 BPS
	ON	ON						38,400 BPS
OFF								NOT USED

7. Status LEDs

Power-up: All LED's OFF.

Initialization: Once power is applied, initialization of the module begins.

The BOOT code will turn ON LEDA after the initialization of the registers is completed. If the BOOT code cannot complete the initialization, the watchdog timer will reset the module after about one second.

If the BOOT code cannot launch the LOADER code: LEDA will be ON, LEDB will be OFF

If the LOADER cannot launch the application code: LEDA will flash (heartbeat (off-line), see below), LEDB will display communication activity.

After hardware initialization is complete, LEDs 1 through 8 LED TMP and LED PFL are sequenced at a 200mS rate.

Running: After the above sequence, the LEDs have the following meanings:

LEDA: Heartbeat and On-Line Status:

Off-line: 1 second rate, OFF for 90% (900mS) ON for 10% (100mS).

On-line: 1 second rate, OFF for 10% (100mS) ON for 90% (900mS).

LEDB: SIO Communication Port Status:

Indicate communication activity on the SIO communication port.

LED TMP: Input Status for TPM

LED PFL: Input Status for PFL

LED TMP and LED PFL:

Every 3 seconds the LED will change state for 50mS.

LED K1 throught LED K16:

Illuminates when output relay K1 throught K16 are energized.

8. Technical Specification - OCM

** The processor is for use in low voltage, class 2 circuit only.

Primary power:

12Vdc±10%, 500mA

12Vac±15%, 750mA RMS

Relay contacts:

16 form C, 5A 28Vdc, Resistive.

Inputs:

2 unsupervised , normally closed contacts for Tamper and power fault

Communication:

RS-485, 2-wire or 4-wire, 2,400 to 38,400bps

Wire requirements:

Power: 1 twisted pair, 18AWG

RS-485: 24AWG, 4,000feet (1,200m) max., twisted pair(s) with shield

Alarm inputs: 1 twisted pair per input, 30 ohms max.

Outputs: as required for the load

Reader: 6 conductors, 18AWG, 500 feet (150m) max.

Environment:

Temperature - -55°C to +85°C, storage; 0°C to +70°C, operating

Humidity - 0% to 95% RHNC

Mechanical:

Dimension: 6 in. (152mm) W x 8 in. (203mm) L x 1 in. (25mm) H

Weight: 16 oz (454 gm) nominal

Specification subject to change without notice.

The OCM should only be used to control exits from areas where an alternative method for exit is available. This product is not intended for, nor is rated for operation in life-critical control applications. Digital Horizon Solutions, LLC is not liable under any circumstances for loss or damage caused by or partially caused by the misapplication or malfunction of the product. Digital Horizon Solutions, LLC's liability does not extend beyond the purchase price of the product.

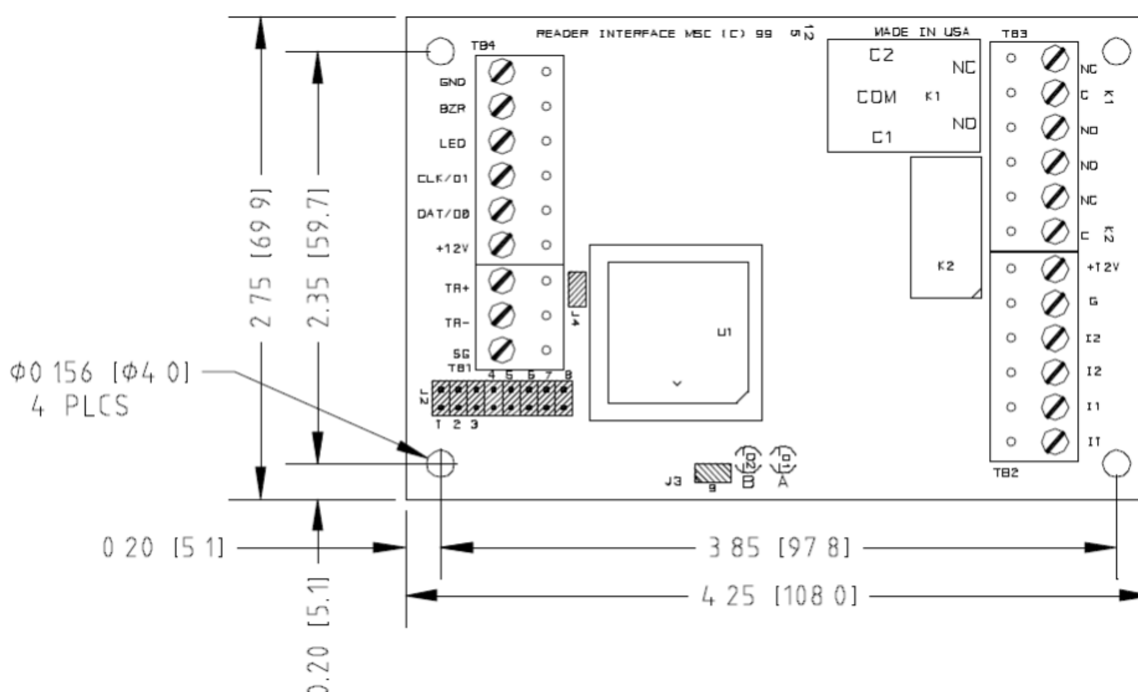
Single Door Module (SDM)

Installation and Specifications:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

1. General

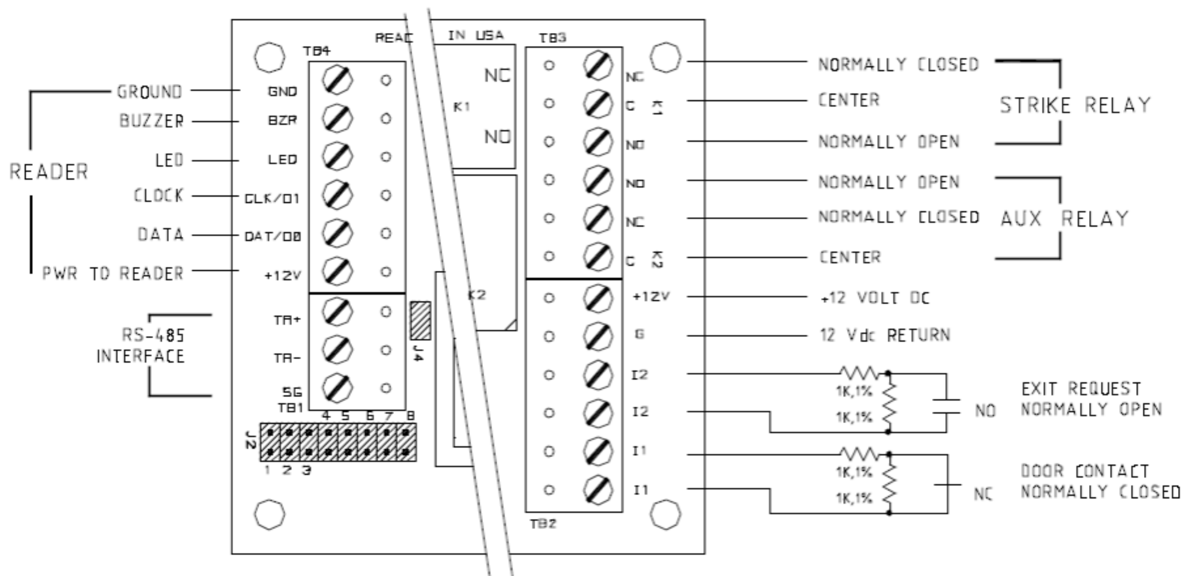
The Single Door Module (SDM)provides a solution to OEM system integrator where interfacing to a TTL/Wiegand type reader and door hardware is needed. The SDM can accept data from a reader with clock/data or Wiegand signaling, provides a tri-stated LED control and buzzer control. Two form-C relay outputs may be used for strike control or alarm signaling. Two supervised inputs are provided for monitoring the door contact and exit push button. Communication to the interface is accomplished via a 2-wire RS-485 interface.



2. Supply Power to the Interface:

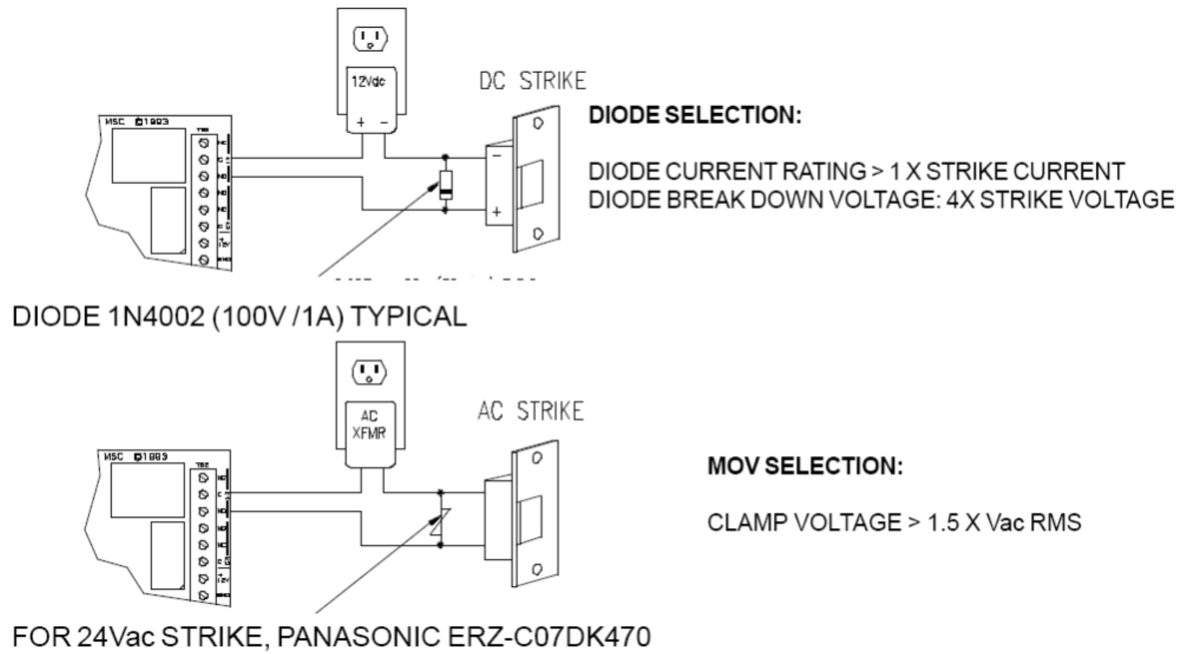
All interconnection to the Interface are via quick-disconnect terminal blocks.

The SDM requires 12Vdc ±15% for power. The power source must be filtered. DO NOT use ac transformer directly to power the SDM. The 12Vdc is passed to the telco modular jack and is available for powering a reader. Reader with TTL (clock/data or wd1/wd0) interface is supported by the SDM. Two supervised inputs are typically used for door contact and exit push button monitoring. End of line resistors are required for line supervision.



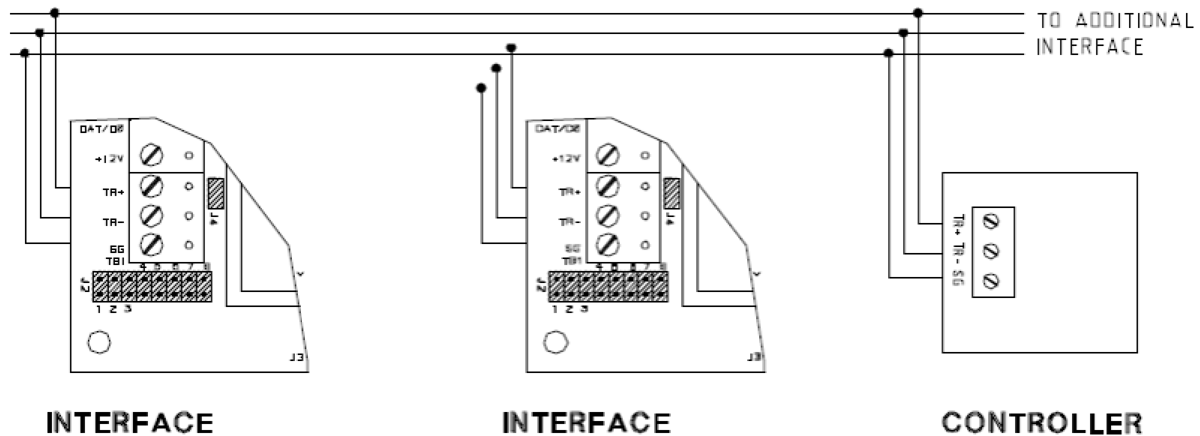
Two form-C relay contacts are provided for controlling door strike or other devices. The contact ratings are different on these outputs. Load switching can cause contact abnormal wear and premature contact failure. Switching of inductive loads (strike) also causes EMI (electromagnetic interference) which may interfere with normal operation of other equipments.

To minimize contact premature failure and to increase system reliability, contact protection circuit must be used. The following two circuits are recommended. Locate the protection circuit as close to the load as possible (within 12 inches [30cm]), as the effectiveness of the circuit will decrease if it is located far away.



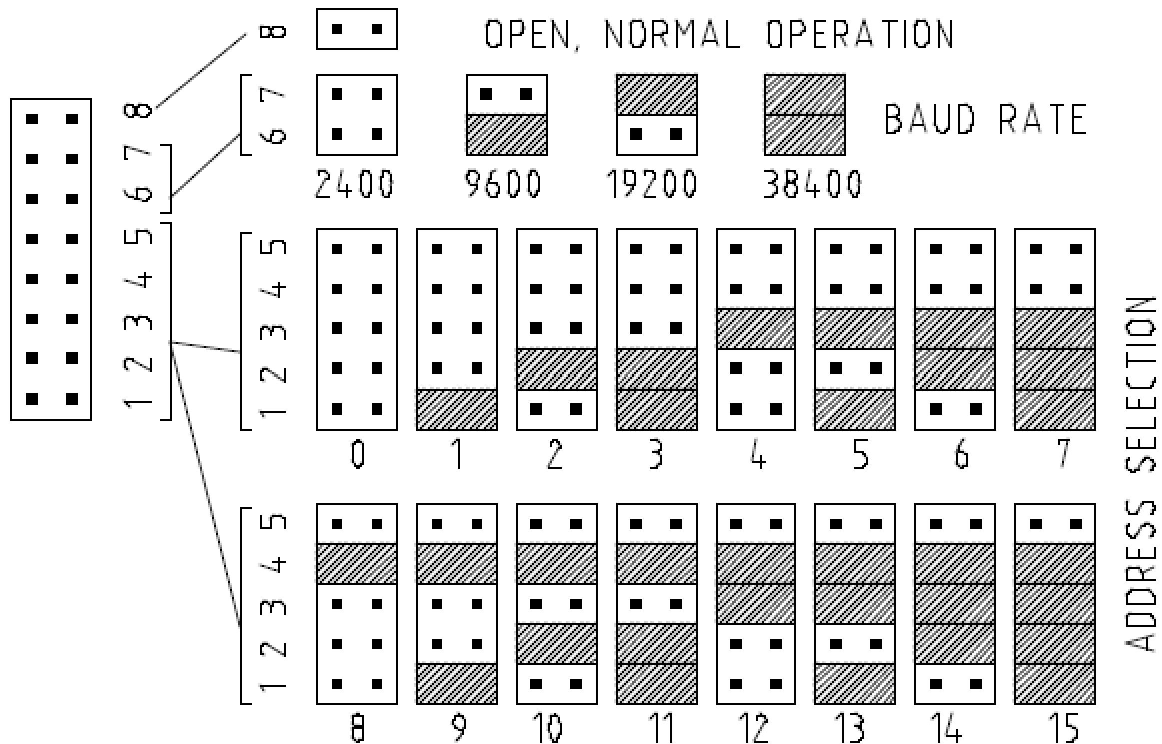
3. Communication Wiring:

The SDM communicates to an SPM via a half duplex multi-drop RS-485 interface. The total cable length is limited to 4,000 feet (1,200 meters). Shielded cable of 24AWG with characteristic impedance of 120 ohm is specified for the RS-485 interface. The last devices on both end of the cable should have the termination installed (set jumper J4 on).



4. Jumpers

Each SDM must be configured to have a unique address and correct baud rate. The address and baud rate are selected by installing the specified jumpers.



5. Technical Specification – SDM

** The processor is for use in low voltage, class 2 circuit only.

Primary power:

12Vdc±10% 125mA Max. (Plus reader current)

Relay contacts:

K1, 5A @ 28Vdc; K2, 1A @ 28Vdc

Inputs:

2 supervised, End of Line resistors, 1k ohm 1% 1/4 watt standard

Jumper Input (J3) is Tamper. The SDM does not have a power monitor input.

Reader interface:

Reader power - 12Vdc, 50mA max. each

Reader LED output - TTL compatible, high > 3V, low < 0.5V, 5mA source/sink max.

Reader buzzer output - Open collector, 5Vdc open circuit max. 10mA sink max.

Reader data inputs - TTL compatible inputs

Communication:

RS-485, 2-wire only, 2,400 to 38,400bps

Wire requirements:

Power: 1 twisted pair, 18AWG

RS-485: 24AWG, 4,000feet (1,200m) max., twisted pair(s) with shield

Alarm inputs: 1 twisted pair per input, 30 ohms max.

Outputs: as required for the load

Reader: 6 conductors, 18AWG, 500 feet (150m) max.

Environment:

Temperature - -55°C to +85°C, storage; 0°C to +70°C, operating

Humidity - 0% to 95% RHNC

Mechanical:

Dimension - 4.25" (108mm)W x 2.75" (70mm)L x 1.4" (36mm)H

Weight - 4 oz. (120g) nominal

Specification subject to change without notice.

The SDM should only be used to control exits from areas where an alternative method for exit is available. This product is not intended for, nor is rated for operation in life-critical control applications. Digital Horizon Solutions, LLC is not liable under any circumstances for loss or damage caused by or partially caused by the misapplication or malfunction of the product. Digital Horizon Solutions, LLC's liability does not extend beyond the purchase price of the product.

Multiplexers

MUX-4 Isolated Multiplexer

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



1. General:

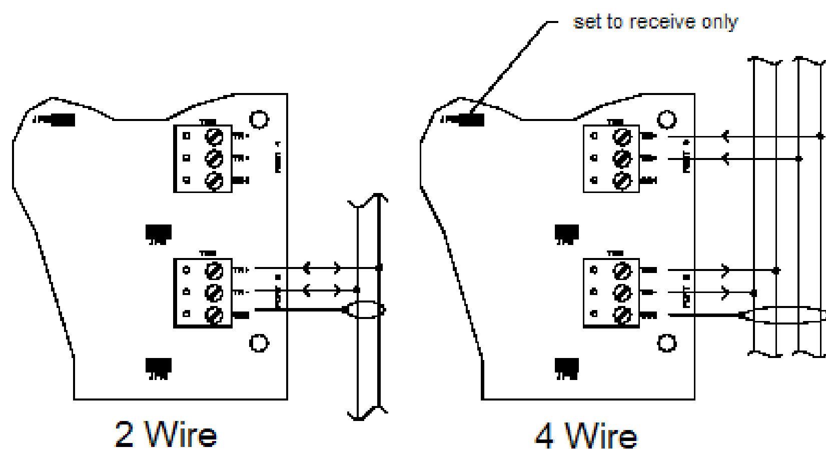
The MUX-4 allows a controller to expand a single communication port to 4 2-wire RS-485 channels, thus making it convenient to implement star wiring topology. All five 2-wire channels on the multiplexer are universal with regard to master/slave devices. All these channels are isolated with break down voltage greater than 500 volts. The electrical interface for port 1 is jumper selectable as RS-232 or RS-485.

Ports 2 and 4 may be individually configured as receive-only channel. By pairing a receive-only channel with another channel, a 4-wire RS-485 channel may be formed.

Baud rate dependent turn around delay is set by DIP switches. The typical turn around time is set to approximately 10 bit time (e.g. for 300 bps, it is 10 x (1/300) =33.3 mS.). To avoid collision, a device must wait for this time before it can begin a new transmission.

2. Port Configuration:

The following figure shows the typical usage for 2-wire and 4-wire RS-485. To set a port as receive only, remove the corresponding jumper (see table).



3. Jumper and Switch Usage:

See the following tables for jumper and DIP switch setting.

JUMPERS	SET AT	SELECTED
JP2,JP3,JP5,JP6,JP7	RS232	PORT 1 IS RS-232
	RS485	PORT 1 IS RS-485
JP11	OFF	PORT 2 IS RECEIVE ONLY FOR 4-WIRE RS-485
	ON	PORT 2 IS 2-WIRE RS-485
JP12	OFF	PORT 4 IS RECEIVE ONLY FOR 4-WIRE RS-485
	ON	PORT 4 IS 2-WIRE RS-485
JP8	ON/OFF	PORT 1 RS-485 TERMINATION
JP1	ON/OFF	PORT 2 RS-485 TERMINATION
JP4	ON/OFF	PORT 3 RS-485 TERMINATION
JP9	ON/OFF	PORT 4 RS-485 TERMINATION
JP10	ON/OFF	PORT 5 RS-485 TERMINATION

S4	S3	S2	S1	SELECTION
OFF	OFF	OFF	OFF	300 BPS
OFF	OFF	OFF	ON	1200 BPS
OFF	OFF	ON	OFF	2400 BPS
OFF	OFF	ON	ON	4800 BPS
OFF	ON	OFF	OFF	9600 BPS
OFF	ON	OFF	ON	19200 BPS / 38400 BPS NORMAL
OFF	ON	ON	OFF	38400 BPS FAST TURN
OFF	ON	ON	ON	38400 BPS FAST TURN

Technical Specifications - MUX-4

**The multiplexer is for use in low voltage, class 2 circuits only.

Primary power:

DC input: 12Vdc 15%, 300mA

Interfaces:

Port 1: RS-232/RS-485, selectable

Port 3, 5: RS-485, Transmit/Receive

Port 2, 4: RS-485, Transmit/Receive, or Receive Only

Wire requirement:

Power: 1 twisted pair, 18 AWG

RS-485: 24AWG, 4,000ft (1,200m) max., twisted pair(s) with shield.

RS-232: 24AWG, 50ft (15m) max.

Environmental:

Temperature: 0 to 70 C, operating, -55 to +85 C, storage

Humidity: 0 to 95% RHNC

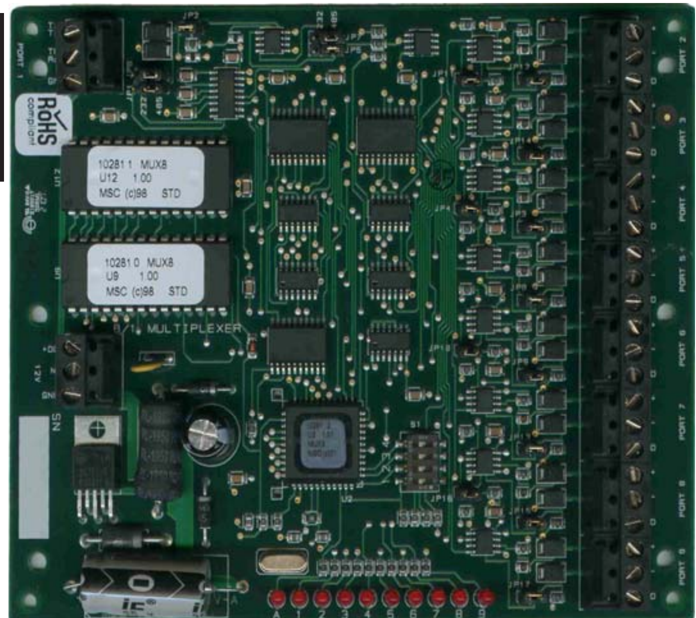
Mechanical:

Dimension: 5 in. (127mm) L x 6 in. (152mm) W x 1 in. (25mm) H

Weight: 4 oz (180 g) nominal

MUX-8 Multiplexer

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



1. General:

The MUX-8 allows a controller to expand a single communication port to 8 2-wire RS-485 channels, thus making it convenient to implement star wiring topology. All nine 2-wire channels on the multiplexer are universal with regard to master/slave devices.

The electrical interface for port 1 is jumper selectable as RS-232 or RS-485.

Ports 2, 4, 6 and 8 may be individually configured as receive-only channel. By pairing a receive-only channel with another channel, a 4-wire RS-485 channel may be formed.

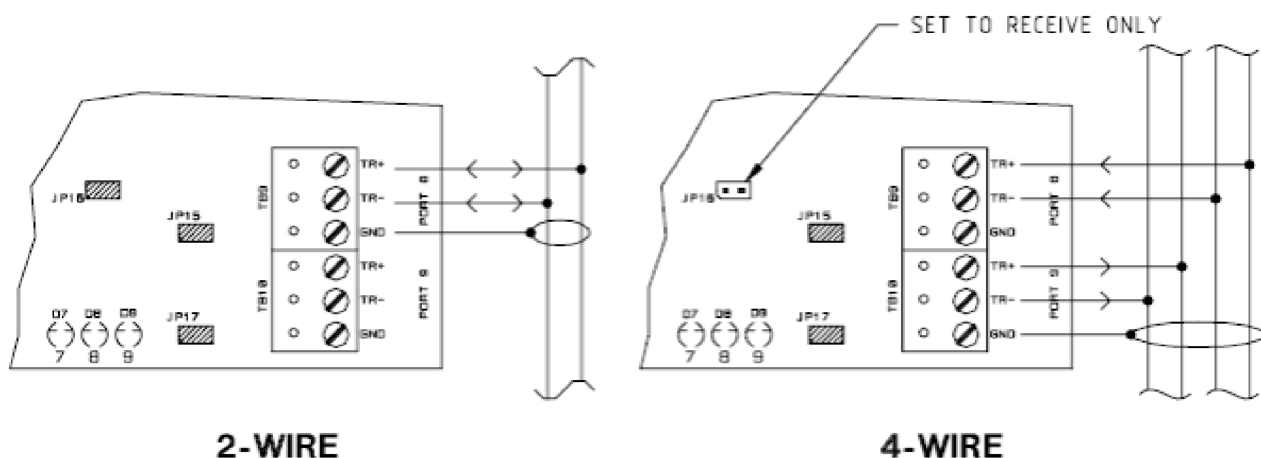
Baud rate dependent turn around delay is set by DIP switches. The typical turn around time is set to approximately 10 bit time (e.g. for 300 bps, it is 10 x (1/300) =33.3 ms.). To avoid collision, a device must wait for this time before it can begin a new transmission.

2. Port Configuration:

The following figure shows the typical usage for 2-wire and 4-wire RS-485. To set a port as receive only, remove the corresponding jumper (see table).

6 [152,40]
0,25 [6,35]
5,5 [139,70]
5 [127,00]
2 [50,80]
2 [50,80]
0,5 [12,70]
PORT 1
TR+
TxD
TR-
RxD
GND
JP2
JP6
JP1
232 485
232 485
JP7
JP5
JP11
JP12
JP14
JP14
JP3
JP8
JP10
JP9
JP13
JP16
JP15
JP17
MULTIPLEXER
+DC
NC
GND
S1
1 2 3 4
A 1 2 3 4 5 6 7 8 9
PORT 2
PORT 3
PORT 4
PORT 5
PORT 6
PORT 7
PORT 8
PORT 9

SPM
8/1 MUX
2-WIRE
SDM
SDM
4-WIRE
2-WIRE
2-WIRE
2-WIRE
DDM
ICM
OCM
DDM
OTHER



3. Jumper and Switch Usage:

See the following tables for jumper and DIP switch setting.

JUMPERS	SET AT	SELECTED
JP1,JP5,JP6,JP7	232	PORT 1 IS RS-232
	485	PORT 1 IS RS-485
JP11	OFF	PORT 2 IS RECEIVE ONLY FOR 4-WIRE RS-485
	ON	PORT 2 IS 2-WIRE RS-485
JP4	OFF	PORT 4 IS RECEIVE ONLY FOR 4-WIRE RS-485
	ON	PORT 4 IS 2-WIRE RS-485
JP10	OFF	PORT 6 IS RECEIVE ONLY FOR 4-WIRE RS-485
	ON	PORT 6 IS 2-WIRE RS-485
JP16	OFF	PORT 8 IS RECEIVE ONLY FOR 4-WIRE RS-485
	ON	PORT 8 IS 2-WIRE RS-485
JP2	ON/OFF	PORT 1 RS-485 TERMINATION
JP12	ON/OFF	PORT 2 RS-485 TERMINATION
JP14	ON/OFF	PORT 3 RS-485 TERMINATION
JP3	ON/OFF	PORT 4 RS-485 TERMINATION
JP8	ON/OFF	PORT 5 RS-485 TERMINATION
JP9	ON/OFF	PORT 6 RS-485 TERMINATION
JP13	ON/OFF	PORT 7 RS-485 TERMINATION
JP15	ON/OFF	PORT 8 RS-485 TERMINATION
JP17	ON/OFF	PORT 9 RS-485 TERMINATION

S4	S3	S2	S1	SELECTION
OFF	OFF	OFF	OFF	300 BPS
OFF	OFF	OFF	ON	1200 BPS
OFF	OFF	ON	OFF	2400 BPS
OFF	OFF	ON	ON	4800 BPS
OFF	ON	OFF	OFF	9600 BPS
OFF	ON	OFF	ON	19200 BPS / 38400 BPS NORMAL
OFF	ON	ON	OFF	38400 BPS FAST TURN
OFF	ON	ON	ON	38400 BPS FAST TURN

Technical Specifications - MUX-8

**The multiplexer is for use in low voltage, class 2 circuits only.

Primary power:

DC input: 12Vdc±15%, 250mA

Interfaces:

Port 1: RS-232/RS-485, selectable

Port 3, 5, 7, 9: RS-485, Transmit/Receive

Port 2, 4, 6, 8: RS-485, Transmit/Receive, or Receive Only

Wire requirement:

Power: 1 twisted pair, 18 AWG

RS-485: 24AWG, 4,000ft (1,200m) max., twisted pair(s) with shield.

RS-232: 24AWG, 50ft (15m) max.

Environmental:

Temperature: 0 to 70 °C, operating, -55 to +85 °C, storage

Humidity: 0 to 95% RHNC

Mechanical:

Dimension: 5 in. (127mm) L x 6 in. (152mm) W x 1 in. (25mm) H

Weight: 4 oz (180 g) nominal